# Montana Outdoors

September/October 2004

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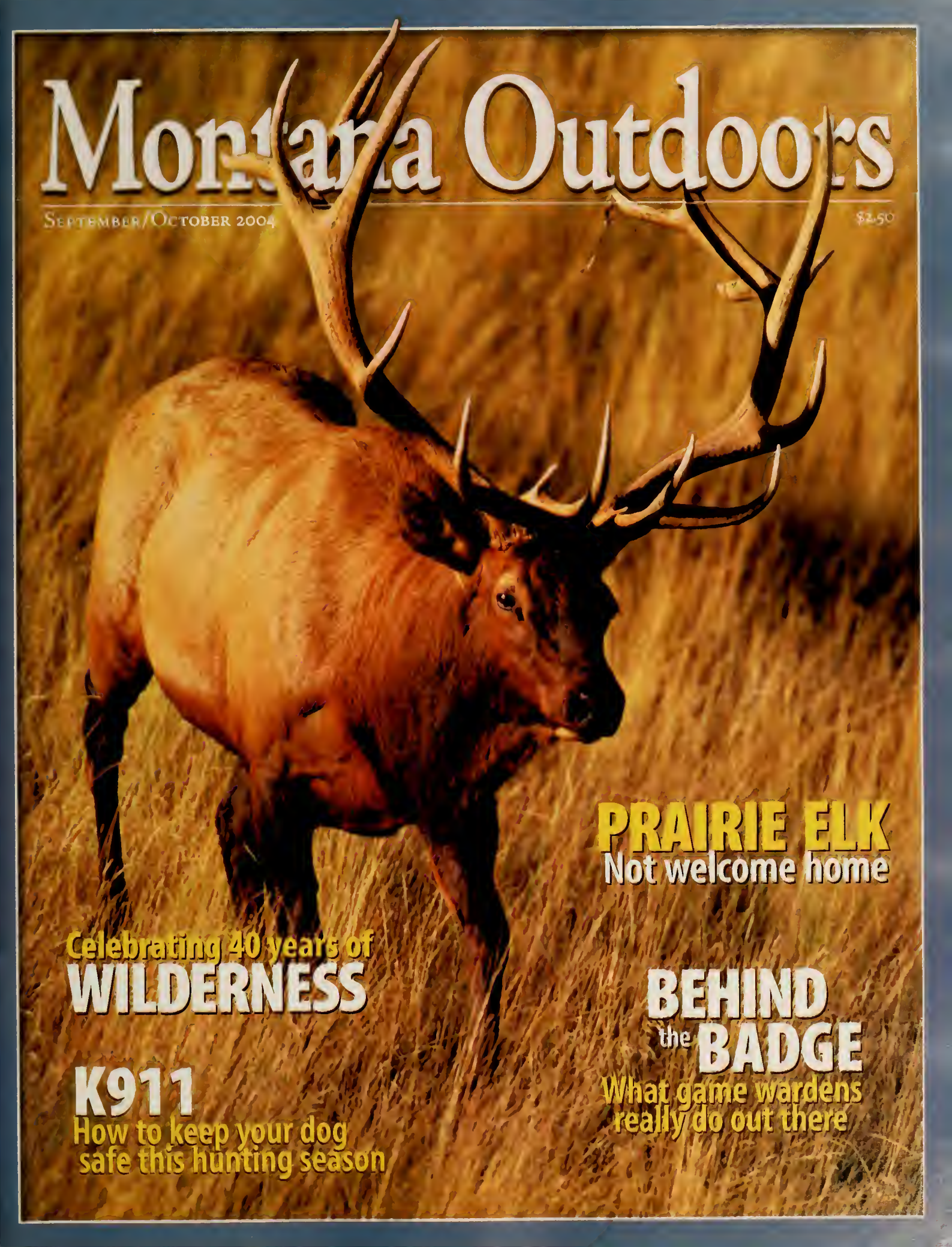

## PRAIRIE ELK
Not welcome home

Celebrating 40 years of
## WILDERNESS

## BEHIND the BADGE
What game wardens really do out there

## K911
How to keep your dog safe this hunting season

Montana Fish, Wildlife & Parks

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CONTENTS

# Montana Outdoors

September/October 2004

## FEATURES

6 **Chilly Reception** Though native to northeastern Montana, elk returning to what are now the region's farm fields are being managed as unwelcome intruders. *By Andrew McKean*

10 **Game Warden "Glamour"** While the high-country horseback image endures, an FWP game warden's real life often consists of sleepless nights, public presentations, beef jerky breakfasts, and living out of a pickup cab. *By Dave Hagengruber*

BLOCK MANAGEMENT 26

16 **K911** How to keep your hound out of harm's way this hunting season. *By Tom Dickson*

20 **Confluence of Cultures** At Missouri Headwaters State Park, visitors see where rivers—and people—have been meeting for thousands of years. *By Sam Curtis*

26 **Will the Sun Set on Block Management?** Set to expire soon, this popular program will require legislative action to continue helping hunters, landowners, and wildlife managers. *By Tom Dickson*

28 **Song of the Land** Listening to the prairie, while hunting its swiftest inhabitants. *By Lori Micken*

30 **Forty Years of Wilderness** When Congress passed the Wilderness Act in 1964, millions of acres "untrammeled by man" were preserved for hunting, fishing, hiking, and wildlife watching. *By Becky Lomax*

## DEPARTMENTS

2 **Letters**
3 **Natural Wonders**
3 **Our Point of View** Weather Trumps All
4 **Outdoors Report**
15 **Out Here** A Different Angle on Hunting
25 **Wildlife Management** The New Cow Elk Option
36 **State Parks Calendar**
37 **Outdoors Portrait** Great Horned Owl
38 **Parting Shot** "An Essential Point"

**COVER PHOTO:** *A trophy bull elk wades through prairie grasses. In recent years, more and more of the large ungulates have been returning to eastern Montana. Why aren't they being greeted with open arms? See page 6. Photo by Donald M. Jones.*

**OPPOSITE PAGE:** *A warm morning sun burns fog off a pond in the Cabinet Mountains Wilderness. Learn more about this and other Montana wilderness areas on page 30. Photo by Tim Cady.*

### Which is correct?

I am delighted with my first issue of your informative magazine. During my first fishing trip to your wonderful state, I was a guest of a friend who taught me that trout have a slimy protective coating that prevents fungus infections and the like. Handling a fish removes this coating and, when released, the trout are more susceptible to disease. The proper way to release a fish is to grasp the eye of the hook and shake the flapping critter into the water.

Yet in the May/June issue, you show three pictures (including the cover) of humans handling fish while posing for photographs. Was I misinformed, and is it okay to grasp the fish before releasing it?

Peter Folcik
*Tampa, Florida*

Editor Replies: *Trout (and other fish) do have a protective coating that helps protect them from disease. And overhandling, especially with dry hands, can remove this coating. But there are other factors just as important to increasing survival rates of released fish. Grabbing the hook with a pliers and shaking it loose without holding the trout, as your friend recommends, could break the fish's jaw, injuring it more than if it were carefully held for a quick and gentle hook release. Most trout anglers and biologists agree that the best way to release a trout unharmed, if that is your goal, is to use barbless hooks, land it quickly, let it rest a few moments in the water before release, wet your hands before touching the fish (to lessen slime removal), and remove the hook while the fish is still in the water. Bear in mind that not all fish need to be released (except where required by law) and that many people enjoy eating their catch.*

### Too soon to trap

As a guest of the Blackfeet Nation in June 2000, I was pleased and honored to visit their swift fox reintroduction lands. I was impressed by that austere and dramatic landscape, where these diminutive canids had thrived until European settlement. I was further impressed by the contemporary and collaborative efforts to reestablish swift foxes in Montana. Thus, I was pleased to see your cover story on swift foxes in the July/August issue of *Montana Outdoors*.

I remain to be convinced that "rapid recovery," as you call it, has been achieved. Although recovery goals vary by species and situation, they generally seek to restore normal population dynamics to the species at risk. It is premature to suggest that swift foxes have recovered in Montana without detailed demographic information, carefully collecred over a number of years. It is all the more surprising therefore to learn that Montana Fish, Wildlife & Parks is considering a limited harvest "to learn more about swift fox populations and genetics."

It is not necessary to kill swift foxes to learn how their populations are doing. Further, no harvest should be considered until the population is sufficiently widespread, robust, and stable such that it can withstand harvest pressure, as is the case for any game species. Also, it is no longer necessary to trap or even see swift foxes to gather genetic data. Recent technological advances permit the use of scats (feces) and hair samples to provide genetic profiles of individual foxes and populations.

I hope FWP will reconsider any plan to harvest swift foxes until we know they have indeed returned to Monrana to stay.

Patrick Kelly
*Associate Professor of Biology and Coordinator of the Endangered Species Recovery Program, California State University, Stanislaus*

### Go for it!

As a new subscriber to *Montana Outdoors*, I read with amusement the letters opposing the reintroduction of native westslope cutthroat trout to their native environs in Montana. It is the height of ignorance to oppose such efforts. As someone who appreciates Montana's natural wonders, I say, "Go for it!" with the program to bring back the native westslope cutthroat trout. The naysayers are off base.

Mitchell Bent
*Antigo, Wisconsin*

### The beginning of a fisherman

Recently my five-year-old grandson hiked up into the Beartrap Canyon Wilderness with his family for an overnight fishing trip on the Madison River. When Garret hooked his first fish, I studied his reaction as he felt the tug of trout at the end of his rod. The fish took line out, and I cautioned him to not force the fish but allow it to tire itself out. I was surprised to see how well Garret played the fish and finally brought it into the gravel shallows. Without hesitation, he pounced on the thrashing brown trout, picked it up, and held it for us to see, showing complete joy in his accomplishment. We took the fish back to camp, and I cooked it up for him. It's a grandfather's hope that the memory will stay with him and be the beginning of a fisherman.

Joe Gutkoski
*Montana River Action, Bozeman*

Editor Replies: *It's our hope, too. By the way, if you and other readers want to learn about Montana's other wilderness areas and how they came to be, see page 30.*

■ We welcome your comments, questions, and letters to the editor. We'll edit letters as needed for accuracy, style, and length. Mail your letter to: *Montana Outdoors*, P.O. Box 200701, Helena, MT 59620-0701. Or e-mail us at: tdickson@state.mt.us.

*"She no like. Say must put in garage or basement."*

TOM DICKSON

**Q.** *I still hear people call your department "Fish and Game." How long has it been since the name changed, and why don't more people get the name right?*

**A.** The name was changed to Fish, Wildlife & Parks in 1979 to reflect the department's expanding responsibilities to manage all wildlife and Montana's state parks. As to why the "new" name still hasn't caught on after 25 years, apparently old habits die hard.

**Q.** *When duck hunting, I have a hard time distinguishing the brownish hen mallards, gadwalls, pintails, and wigeon. Any advice?*

**A.** Jim Hanson, FWP Central Flyway coordinator in Billings, provides these ID tips: "A hen mallard is a large, 'chunky' brown duck with some orange on the bill and an iridescent blue patch bordered by white stripes on the back of the wing. A hen pintail is a big-but-slim brown duck with a bluish gray bill and a long, 'pointy' appearance at the head and tail. A hen gadwall is a brownish duck usually with some orange on the bill and a small 'window' of white feathers on the trailing edge of the wing. A hen wigeon has a short, blue-gray bill, a dark smudge around its eye, pinkish flanks, and a small area of white in the middle of the wing. For more on duck identification, go on the Web to www.npwrc.usgs.gov/resource/tools/idguide/idguide.htm.

JEFF TOLBERT

**Q.** *Which are the most scenic drives in Montana?*

**A.** That's definitely in the eye of the beholder. That said, the U.S. Forest Service has designated three routes in Montana for their outstanding scenic value: the Beartooth Scenic Byway between Cooke City and Red Lodge, the Pioneer Mountains Scenic Byway southwest of Butte, and the Kings Hill Scenic Byway through the Little Belt Mountains southeast of Great Falls.

Other routes touted as must-see drives include the Going-to-the-Sun Road in Glacier National Park, U.S. Highways 287 (between Augusta and Wolf Creek) and 89 (between Livingston and Yellowstone National Park), and Montana Highways 43 (along the Big Hole River, southwest of Butte) and 69 (south from Boulder).

**JEFF HAGENER** | *Director of Montana Fish, Wildlife & Parks*

## OUR POINT OF VIEW

# *Weather Trumps All*

MANY SPORTSMEN AND SPORTSWOMEN believe that Montana Fish, Wildlife & Parks controls the state's fish and wildlife populations. We do, to some extent, through habitat conservation, partnerships with landowners, and regulated hunting, fishing, and trapping seasons. But what plays a far greater role, both in the short term and over the long haul, is weather.

For example, the current long-term drought has lowered stream flows and raised water temperatures throughout much of the state. Fluvial (river-dwelling) arctic grayling have been particularly hard hit, but the drought has also hurt brown, rainbow, and cutthroat trout populations.

A lack of precipitation can also depress waterfowl numbers. During dry years, prairie potholes dry up, depriving ducks and geese of vital feeding, nesting, and migration habitat. But with just one wet spring, many of those dry basins will fill up, again providing excellent habitat.

Snowfall is another huge factor affecting wildlife populations, especially in the mountains. Heavy, early snow forces elk down to lower elevations where forage is still available. Such conditions make elk vulnerable to hunters, especially in the Sun River and northern Yellowstone areas, which creates a much higher harvest than in years with little snowfall. If heavy snows continue through the winter, elk numbers will often decline further due to starvation and the loss of unborn calves.

Mild winters, on the other hand, allow elk to stay at high-elevation parks, beyond the reach of most hunters. That's the main reason for the high elk numbers in parts of southwestern Montana. The same dry, hot weather that has harmed grayling numbers has allowed many elk herds in that region to flourish.

Over time, weather changes. Droughts become wet years, and winters of heavy snow are followed by ones with little snowfall. Elk, trout, and other species evolved with these changing conditions. If weather was all fish and wildlife populations had to contend with, they would do fine.

Once humans began significantly changing the landscape, however, fish and wildlife had new challenges to cope with. Migration routes were blocked by fences and roads. Naturally beneficial wildfires were suppressed. Dams blocked river fish migration while irrigation and other water use lowered water levels. Unregulated hunting and fishing also took a huge toll.

FWP exists to help manage these human effects on fish and wildlife. And we often succeed, mainly by working with landowners, hunters and anglers, and other conservation agencies to find ways for human use to continue while doing as little harm as possible to fish and wildlife.

But when it comes to the major factor affecting populations—the powerful forces of weather—there's little we can do besides stand back with everyone else and watch how it plays out.

M. Jeff Hagener

# Lake trout record shattered

On June 23, Ruth Barber went fishing at Flathead Lake to spend time with friends, take in a little scenery, and maybe catch a fish or two. Little did she know she would spend the afternoon racing up and down the shore trying to verify what turned out to be a state record lake trout that broke a 25-year-old record.

Barber, 77, of Somers, was fishing for lake trout, fish locally called "macks," on the 122,500-acre lake with neighbors Boyd and Vickie Davis. The trio were deep-trolling Flatfish in the middle of the lake. They had just finished eating lunch when "Wham, the fish hit," Barber says.

JOHN FRALEY/MONTANA FWP

Ruth Barber and neighbor Boyd Davis hold her state record laker. "It was almost scary," she says of the 42-pound, 11.8-ounce fish.

In a matter of seconds, the fish ripped out 250 feet of line before Boyd Davis could apply pressure to the reel spool to help Barber slow it down.

Barber fought the fish for nearly half an hour, struggling to hold the fishing rod upright. "Boyd was encouraging me, coaching me on how to hold the rod," says Barber. "I was tired and kept saying, 'Take over, take over,' but he said I could do it. He was a calming influence."

Barber finally worked the fish in close to the boat. "When I saw it, I just couldn't believe it," she says. "It was almost scary."

And no wonder. The fish was 42 inches long and weighed nearly half as much as the trim, lightweight senior holding the rod. "I was absolutely exhausted, and Vickie said I was as white as a sheet," Barber says.

After the fish was netted, the three anglers struggled to haul it up into the boat. The trout filled the entire livewell.

"After the fish was in the boat, I sat down for a few minutes and had a pop," says Barber. "Then I felt better."

When they reached shore, the anglers called FWP, then drove to Somers to weigh the fish on certified scales at the post office. The scale couldn't print out a hard copy of the weight, however, so the trio headed to a nearby store. That scale was too small for the monster trout, so they raced off to the post office at Kalispell. There, the fish was officially weighed at 42 pounds, 11.8 ounces, topping the old state record of 42 pounds caught in 1979 in Flathead Lake.

Biologists later estimated the fish to be roughly 40 years old.

Barber had planned to eat the fish, but later she agreed to have FWP officials send it to a taxidermist and then put the mount on public display at the regional headquarters in Kalispell.

# 2 weeks added to pheasant season

This fall, Montana pheasant hunters will see their longest season ever. In May, the Montana FWP Commission extended the season for two weeks, making the last day January 1, 2005, rather than the traditional December 15.

The extension was made to provide additional opportunities for pheasant hunters, especially those returning home to Montana during the end-of-the-year holidays. It also will be a boon to businesses in Plentywood and other communities that rely on the pheasant hunting trade.

Wildlife biologists say the additional two weeks of hunting pressure will not affect pheasant populations.

Considering the severity of last winter in the state's northeastern region, many hunters are wondering how Montana's pheasant populations are faring.

"The jury is still out," says Andrew McKean, FWP information officer in Glasgow. "On the one hand, the long and severe winter was definitely brutal on pheasants, especially in the eastern part of this region. We also had a snowstorm here in May just as pheasants were nesting."

## MONTANA FWP TIP-MONT

### Poaching hotline pays

Montana hunters' efforts to curb poaching are paying off—in more ways than one. Last year 1,300 hunters reported violations including over-bag limits, night hunting, game waste, residency violations, and the loan or transfer of tags.

The board of the FWP TIP-MONT Program awarded 25 of those callers, whose tips resulted in convictions, a total of $15,500. Callers may report crimes involving the state's fish, wildlife, and state parks, as well as U.S. Forest Service lands and facilities, to 1-800-TIP-MONT (1-800-847-6668). Callers may remain anonymous and be eligible for a cash reward.

## *Fun things you never expected to do in Montana's state parks*

MONTANA FWP

Do the State Park TWIST

### Hunting for rainbow trout

Hunters traveling through the Lewistown area should consider stopping at **Ackley Lake State Park** to fish for rainbow trout. Eager biters in the fall, the 10- to 15-inch (and larger) rainbows make a nice campfire addition to grilled pheasant or sharptail breasts. The park, which has 23 campsites, is located 25 miles west of Lewistown a few miles south of Montana Highway 3. Call (406) 454-3441.

SPARTASPHOTO.COM

Pheasant hunters will see their season extended by two weeks. Bird numbers are up and down from last year, depending on the area.

"On the other hand," the information officer says, "spring crowing counts did indicate high pheasant numbers in some areas. Counts from Havre west were extremely high—off the charts in some areas. And farther east, counts were above the long-term average, though they were definitely down from 2003, when counts were way above average."

After talking to landowners at several county fairs in late summer, McKean is concerned that ranchers and farmers in some areas reported seeing very few pheasant broods. "That's worrisome," he says. "Still, we won't really know until the hunting season begins and hunters get out into the field."

## FWP continues to monitor for PCBs in fish

When Montana FWP officials learned in May of this year that trout in the Big Springs hatchery near Lewistown were contaminated with PCBs, their foremost concern was the public's health.

"We will not stock trout we know pose a threat to human health," says Chris Hunter, chief of the department's Fisheries Division. Over the past four months, FWP has destroyed roughly 1 million contaminated trout, taking the fish to a Great Falls landfill. Some of the fish had low levels of PCBs, just above the state's "one-meal-a-week" consumption advisory of .11 parts per million. Others contained PCB levels above the state's "do not eat" advisory of .47 ppm. To err on the side of caution, says Hunter, FWP destroyed all fish from raceways containing high PCB concentrations.

The department didn't, however, throw the baby out with the bath water. Trout containing no PCBs or at levels within Montana Department of Public Health and Human Services (DPHHS) meal-a-week consumption guidelines were stocked in Canyon Ferry and other lakes and reservoirs.

"Based on all we know, we're confident that stocking those fish will not pose a risk to human health," says Hunter.

Because testing every hatchery fish would be impossible, Hunter said the agency worked to gather enough fish from each raceway to obtain a statistically accurate measure of PCB concentrations in all fish in each raceway.

The polychlorinated biphenyls, or PCBs, come from paint used decades ago to line some of the hatchery's cement raceways. The paint was applied in the 1960s and '70s, before the United States banned the manufacture of PCBs, cancer-causing chemical compounds used in many paints, plastics, and other industrial materials. Over the years, paint flecks washed off the raceways into Big Spring Creek. In the 1980s, FWP tested fish in the creek just downstream of Lewistown and found trout contaminated with PCBs. In 1995, FWP and DPHHS issued an advisory against eating those fish, but at the time no one knew the source of the contaminants.

Then, in the summer of 2003, the state Department of Environmental Quality found elevated levels of PCBs in Big Spring Creek sediments immediately downstream of the hatchery, which pointed to the hatchery as the likely source of the contaminants. Follow-up sampling by FWP this past summer showed elevated levels of PCBs in trout held in some raceways.

Currently the department is working with a local advisory group, the federal Environmental Protection Agency, and the state health department to specifically identify sources of PCBs in hatchery fish, the health risk those fish pose to

*Continued on page 36.*

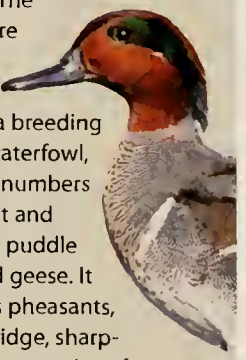
ANN KRAMLICH

PCB-laden paint used on some Big Springs hatchery raceways decades ago has been chipping off and contaminating trout.

MONTANA HUNTING HOTSPOT

**Medicine Lake National Wildlife Refuge**

Located in the state's far northeastern corner, Medicine Lake receives relatively little hunting pressure. The 31,000-acre refuge, established as a breeding area for waterfowl, has good numbers of resident and migrating puddle ducks and geese. It also holds pheasants, gray partridge, sharp-tailed grouse, various furbearers, and deer. No overnight camping. Call (406) 789-2305 or you can go on-line to http://medicinelake.fws.gov.



JOHN R. FORD

# Chilly Reception

## Though native to northeastern Montana, elk returning to what are now the region's farm fields are being managed as unwelcome intruders

By Andrew McKean

"This just isn't elk country," says Norm Goosen, who raises wheat and cattle on a family farm 25 miles northwest of Glendive.

For years Goosen had heard neighbors talk about elk roaming the cedar draws and badlands around his Bloomfield farm. But he dismissed the sightings as either wishful thinking or misidentified deer or cows.

Mule deer, pheasants, and sharp-tailed grouse abound on the area's grassy slopes, which rise toward the Big Sheep Mountains. It's not so much a mountain range but a long, rugged sandstone ridge dividing the Yellowstone and Missouri river watersheds in remote eastern Montana.

Then, three years ago, Goosen saw an elk on his property. He'd planted malting barley in a field at the bottom of a timbered coulee. As soon as the first tender sprouts emerged, elk appeared. At first, one or two animals would materialize in the evenings' grainy twilight, feed at dark, then dissolve back into the cover at daylight. As the barley matured, the animals spent more and more time in the thick, green crop.

"That barley was like a magnet," says Goosen. "By the end of the summer, I was seeing five to ten elk in there all the time, even in the middle of the day."

The following year, the rancher lost more than $3,000 worth of barley to elk depredation, forcing him to plant the high-value crop in another field farther from hiding cover.

Goosen is among the growing number of eastern Montanans seeing elk in their region. Elk populations are growing in Custer National Forest around Ashland and in the pockets of timber between the national forest and I-94. The Bull Mountains herd north of Billings is spilling into nearby agricultural land, and elk from the Missouri River Breaks are venturing farther and farther from their core habitat near the river and Fort Peck Reservoir.

But it's the appearance of elk in the middle of northeastern Montana farmland that has caused the most consternation. In the last few years, elk herds have moved down along tributaries of the Milk and Missouri rivers that originate in Canada. Frenchman Creek, Rock Creek, and the forks of the Poplar River have funneled the large ungulates from Saskatchewan into Montana. A small elk herd has become established in the rugged canyon of Big Muddy Creek between Scobey and Plentywood. And other scattered herds have been seen in McCone County south of Wolf Point.

Elk, long considered a wildlife species of Montana's rugged mountains, have now become established in the land of winter wheat and prairie dogs. For many landowners, that means unexpected depredation. Yet to hunters and wildlife watchers, the appearance of elk is a bonus in an already wildlife-rich region. For their part, wildlife managers are trying their best to manage a large game animal that seemed to appear from nowhere.

### COMING HOME

The return of elk to eastern Montana's plains should not have surprised anyone. The first written accounts made by explorers noted that elk lived across the vast prairie landscape, generally occupying riparian corridors but also browsing upland coulees and brushy draws next to the short-grass prairie grazed by bison and pronghorn. Elk were hunted for food, first by Indians, then fur traders, and then the

"wood hawks," who cut cottonwoods to fuel Missouri River steamboats. When the first big cattle outfits trailed livestock into Montana following the Civil War, elk were still abundant on the open plains.

As fences and railroads closed the open range at the end of the 1800s, elk were eliminated from certain areas but remained in remote locations across what became eastern Montana. It wasn't until the homestead era in the early 1900s that elk were extirpated from the prairie, pushed west from tillable land into the sanctuary of the Rocky Mountain Front and Yellowstone Park. There the animals found a few remote strongholds where they lived beyond the reach of hunting and human development.

Many people who settled in the elk's prairie habitat didn't stay long. In much of eastern Montana, the frenetic boom of homesteading was followed by the agonizing bust of drought, farm consolidation, and depopulation. The human population of Dawson County, where Norm Goosen farms, peaked in 1910 at nearly 13,000 people. The 2000 Census recorded just over 9,000 residents there. Other eastern Montana counties have seen similar declines.

In many cases, the departure of farmers has restored wildlife habitat on land that a generation earlier held cattle and crops. The Conservation Reserve Program, started in the late 1980s to return unproductive agricultural land to native grass, has also changed the eastern Montana landscape. Deer, upland birds, and small mammals have benefited from the increasing tracts of prairie.

As the wildlife habitat returned, conservation agencies were establishing elk herds in parts of the region. The Missouri Breaks elk were transplanted from Yellowstone National Park in the early 1950s. Elk were reintroduced into Canada's Cypress Hills in 1938. And an elk herd was established in North Dakota's Theodore Roosevelt National Park, southeast of Sidney, Montana, in 1985.

A wide-ranging, migratory species, elk like to roam. In the autumn of 2002, a bowhunter in the Missouri Breaks south of Saco killed a 2½-year-old bull elk that wore a green ear tag. The animal was traced to Theodore Roosevelt National Park, several hundred miles away, where it had been tagged as a calf two years earlier.

However, when elk find ample forage, few predators, and little human presence, they tend to stay. That's been the case with the Big Sheep elk, the dispersed herd on the upper Milk River northwest of Havre, and elk now found in the spring-wheat belt from Opheim east to Plentywood.

## NOT A GOOD MIX

Many people have rejoiced at the return of elk to the prairie, including some ranchers.

ROONEY SCHLECHT

"They're nice to have around," says Bernard Pease, whose large-scale wheat farm and cattle operation just north of the Big Sheep Mountains attracts several dozen elk. "The deer and antelope cause a lot more crop damage to our feed and fences than the elk."

But Jim Satterfield, FWP regional supervisor in Glasgow, says elk cause significant problems for many ranchers and farmers.

"The problem with elk is that they're not a neutral presence in this prairie habitat," Satterfield says. "Yes, they were here 200 years ago. But since then, much of the landscape here has been converted to agriculture. And it's the experience of the department, not only in eastern Montana but also in western Montana's foothills and valleys, that elk and agriculture don't easily mix."

Elk tend to target green, succulent vegetation, which means alfalfa or wheat across much of eastern Montana. Also, as Goosen discovered in his barley field, forage that isn't eaten is crushed by bedded elk or ruined by trails and the churning hooves of sparring bulls. With no natural predators, herds can grow quickly.

"Elk management brings a whole spectrum of problems that other animals don't have to the same degree, mostly crop depredation and fence damage," says Harold Wentland, FWP regional wildlife manager in Glasgow.

Don Burke agrees. A Valley County cattle rancher who also grows hay and wheat in the heart of the Missouri Breaks, Burke is preoccupied with elk and the damage they cause his operation.

"We have to chase elk out of our fields every night," he says, "and there's one bunch that we cannot get out, no matter how hard we try. We spend all our time fixing fence and chasing elk. You don't make any money off them, and they can cost you a bundle in lost crops."

The only efficient way to keep elk from expanding into areas where they'll cause widespread depredation is to reduce the size of herds with public hunting before they have a chance to expand.

## HUNTING AS A SOLUTION

Landowners' low tolerance for elk is the main reason FWP held a general elk season last year in much of northeastern Montana. But Pat Gunderson, FWP wildlife biologist in Glasgow, says the hunt was also established to reduce the vulnerability of the region's established elk herds to disease.

"Chronic wasting disease (CWD) is encroaching on Montana," he says. "We have CWD north, east, and south of us in southern Saskatchewan, South Dakota, and Wyoming. The general season can act as a buffer to minimize disease transmission to our world-class elk herds in the Missouri Breaks and Bear Paws Mountains."

The general elk hunting season structure was as liberal as possible. In much of FWP's Region 6 (northeastern Montana), hunters could harvest any elk in either the six-week archery or five-week rifle seasons and could hunt with a general elk license rather than a special permit drawn in a lottery. (The exception was in the Missouri Breaks and Bear Paws, where the department carefully regulates bull elk harvest to maintain trophy hunting opportunities.)

When the northeastern Montana elk season was proposed in spring 2003, some hunters called it a "unicorn hunt," figuring they had a better chance of harvesting the mythological creature than a prairie elk. FWP conceded that the big animals would be hard to find.

Elk weren't as scarce as unicorns. Last fall, according to FWP estimates, 80 elk were killed during the Region 6 general season. One of the first elk killed during the rifle season, in Rock Creek, was an ear-tagged bull that had escaped from a game farm in Saskatchewan, where CWD has been found in wild and captive elk herds.

That's a prime example of the season working," says Gunderson. "Without a general season, that hunter probably would not have been able to harvest that animal.

*Andrew McKean is an FWP information officer in Glasgow.*

JEFF HENRY/THE JACHE JAUNE PHOTOS

MATT LONG

If it had been carrying CWD, the disease could have spread to Montana elk."

Not everyone was pleased with the open elk season, however. "People had seen those elk out in our fields all fall," says Pease, who traditionally allows public hunting on his property. "On opening day, there were nearly 100 vehicles on the roads around my place, people with a new elk tag in their pocket. We don't have hiding cover like in the mountains, so the elk milled out in the open like cattle in a corral. These elk didn't have a chance, so I shut down access."

Pease supports hunting the prairie elk. In fact, he and his grandson each shot a bull on his property. "What I don't like is the wide-open season," he says. "Issue permits and let people hunt the bulls. Manage the population with cow permits. That's what Fish, Wildlife & Parks does every other place, so why not here?"

Pease believes it is possible to maintain a small herd of elk in open, largely agricultural country, and he vows to shut down hunter access to maintain elk on his property.

That's a landowner's right, says Gunderson. But he points out that FWP, as a wildlife management department, has to take a broader view of managing elk in areas where the animals haven't lived for nearly a century. "We're trying to keep elk numbers in nontraditional areas as low as possible," he says. "Any landowner can limit hunting and create a refuge for elk. The problem is that elk are wide-ranging animals, and they rarely stay on a single property. Then they become a neighbor's problem. We're trying to resolve those problems before they get started."

**ELK IN THE OPEN** Once abundant in Montana's eastern prairies, elk were pushed into mountains by unregulated hunting and habitat loss during the early 1900s. Now the large ungulates are back, but parts of the native landscape have changed. Native grasslands have become wheat fields or fenced cattle pasture (above left and above). Though hunters (right) are happy to see more big game in the region, many landowners view the new elk as crop- and fence-destroying pests.

DANIEL MACNEE/CSM

To that end, FWP is holding another general elk hunting season in 2004 in the same areas of Region 6 as last year.

Despite FWP attempts to increase harvest, elk won't completely disappear from eastern Montana's prairies. Though last hunting season chipped away at some elk herds, it educated the survivors, which will be that much harder to kill in the future.

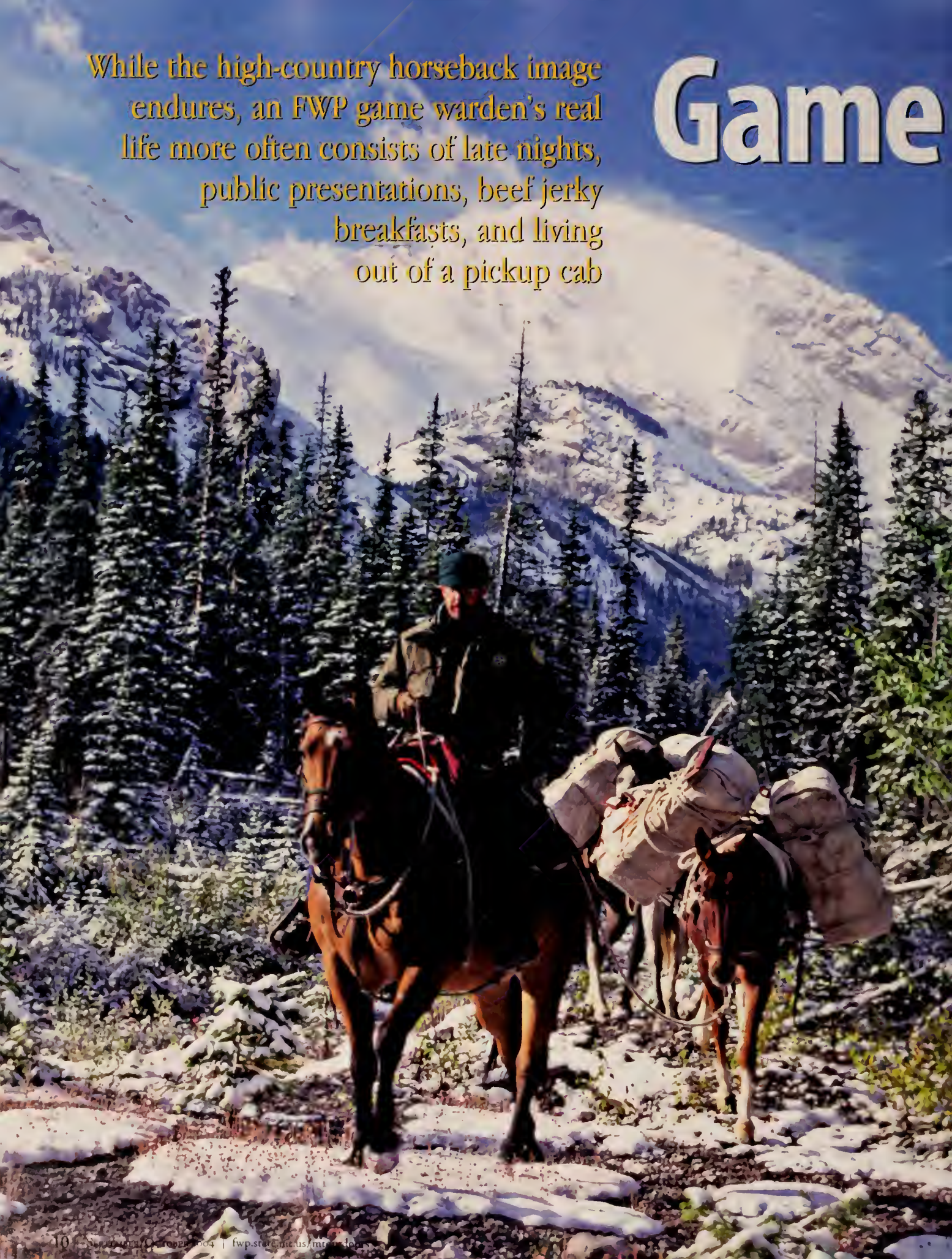
"I expect we will always have elk in these prairie areas," says Gunderson. "Some will be small herds that become established because of landowner tolerance, and others will be animals from managed herds that migrate through. But it doesn't seem fair to ask landowners to shoulder the burden of maintaining elk herds at the levels where they're now at."

Burke, the Missouri Breaks rancher, says that despite the financial losses elk have caused, he retains a fondness for the stately ungulates.

"Don't get me wrong," he says. "I love to watch elk—as long as they're in somebody else's field."

# Game

While the high-country horseback image endures, an FWP game warden's real life more often consists of late nights, public presentations, beef jerky breakfasts, and living out of a pickup cab



# Warden "Glamour"

Story and photos by Dave Hagengruber

HIGH ABOVE, A QUICKENING WIND WAS TOSSING FRESH SNOW OFF THE CREST OF THE ROCKY MOUNTAIN FRONT. BUT standing at the trailhead below, the only sound to break the silence of the frosty morning was the creaking saddle leather from across the parking lot.

It came from Tom Flowers, who was loading his string of pack animals. I'd stopped by to visit with the Choteau-based Montana Fish, Wildlife & Parks (FWP) game warden before he headed off on a patrol into the Bob Marshall Wilderness. For five days, he would visit hunters and their camps and check trails, camping along the trails or sleeping in U.S. Forest Service cabins. After exchanging small talk and bidding Flowers goodbye, I hopped into my truck and watched him ride up through the timber toward a mountain pass. Opening the window, I could hear the stock animals' hooves as they picked their way along the trail.

The picture I took away that day of Tom Flowers, Montana game warden, is still fresh in my mind. When I was a young man, I dreamed of being a game warden. It seemed like such a glamorous, heroic job. And for many people who live in or visit Montana, the image of a horse, a sidearm, a gold star, and a million acres of wilderness may still be what comes to mind when they think of a Montana game warden.

But is that an accurate picture of these men and (a few) women? Curious, I began meeting with Montana game wardens across the state. What I learned amazed me. Yes, wardens still ride the backcountry and sneak up on poachers, just as I dreamed of doing when I was young. But they also help landowners reduce game damage, teach kids how to fish, and save people's lives. And they must master a dizzying array of laws, technologies, and biology, plus possess a rare combination of good humor and tough-mindedness. It turns out that wardens have to do more, and know more, than I ever imagined.

## BIG SKY, BIG WORK AREA

Montana has 70 game wardens in the field covering the state's nearly 150,000 square miles of land and water. That averages out to over 2,000 squate miles per district, though some wardens are responsible for districts of up to 4,000 square miles. That's one person patrolling an area twice the size of Delaware.

As easy as it might seem to disappear in such vast country, game wardens are among FWP's most visible employees. Most hunters, anglers, or park visitors will never meet a wildlife biologist, fisheries technician, or park manager, but there's a good chance they will someday run into a game warden.

That's because one of the main duties of Montana game wardens is to "make contacts" (as they call it). And it's been that way since the appointment of the first warden in 1901. Interaction with the public is one of the ways wardens fulfill their chief mission, which has changed little during the past century.

"Wardens are here to protect the wildlife, parks, and fisheries resources of the state," says Jim Kropp, chief of the FWP Enforcement Division. "We take that very seriously, and that will always be our primary focus."

According to Kropp, who

**NO PLACE LIKE TRUCK** Game wardens, like Jim DeBoer (above), spend long hours in their pickup, which often becomes a combination home and office. Yet wardens, like Tom Flowers (left), still get to ride into the backcountry to check on hunters, wildlife, and trail conditions.

previously worked as a field warden in Bozeman, Billings, Great Falls, and Harlowton, wardens live and breath their work around the clock. "Being a Montana game warden is not just a job; it's a way of life," he says.

That lifestyle can be rewarding, but it doesn't come easy. Wardens spend long hours away from home and do dangerous work. What's more, because criminals are always using the latest technologies to break laws, wardens have to keep pace. Though the mission of game wardens hasn't changed over the past century, the tools and techniques for enforcing fish and wildlife laws have undergone tremendous change.

"When I first signed on 20 years ago," says Great Falls game warden Steve Vinnedge, "the only way to find residency violations and license fraud was to page through thousands of carbon copies of hunting and fishing licenses sold by vendors. You can imagine how efficient that was. Today, it's all electronic, and even though sitting at the computer may not be very glamorous, it gets results."

Vinnedge says that computers have become particularly helpful in catching those trying to circumvent Montana's residency requirements and avoid paying nonresident license fees: "With the Internet and other tools, it's getting easier and easier for us to see who is a resident and who isn't."

## POSITIVE IMPRESSIONS

Though game wardens must be computer literate, an even more valuable skill is the ability to communicate. Wardens help instruct hunter and angler education classes and regularly speak at schools, sporting clubs, and civic groups. And the hundreds of contacts made each year with individual Montanans and visitors give each warden opportunities to provide information and make positive impressions.

"Every contact we make with a hunter or angler in the field is an educational event," says Shane Reno, game warden in Havre. "It's a chance to pass along information, answer questions, and build relationships."

Wardens continually study to become walking encyclopedias of statewide fish, wildlife, and state park laws, policies, and regulations. Reno says he has been quizzed about every imaginable resource or issue—and not just those related to his work area.

"I'll get asked about fish management policies in the high mountain lakes around Dillon," Reno says. "Or someone might ask me about the strange bird they saw at their feeder in Kalispell two months ago."

Reno, who helps train warden recruits, tells newcomers that the more they know about the outdoors, the greater their credibility with the public.

"To be able to tell someone, 'That bird you saw is probably a western tanager' is so valuable for a warden," Reno says.

"This is not a job for someone who doesn't like dealing with people," he adds. "Whether we're answering questions about state park camping fees or untangling fish hooks for a bunch of third-graders, the essence of being a warden is being able to work with people."

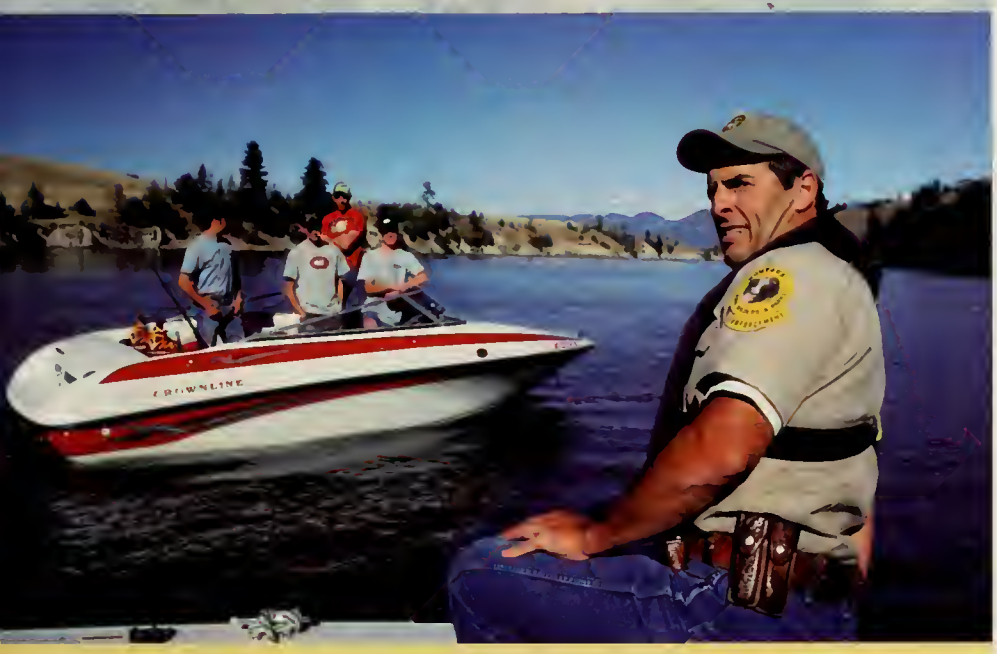
Wardens use these same skills when meeting with landowners, who own much of Montana's fish and wildlife habitat. In areas where hungry elk and deer eat hay and crops, wardens spend many hours talking to ranchers on the phone or in person.

"In an area like southeastern Montana, where so much of the land is privately owned, it's a priority for us to stay in touch with landowners as much as possible," says Miles City game warden Todd Anderson.

**IMPROVING THEIR AIM**
Game wardens are constantly training: Mike Fegely and fellow wardens practice at a firearms range (above), while warden Wendy Kamm (above right) instructs colleagues in ice rescue techniques. Game wardens are also constantly meeting with landowners, civic groups, hunters, anglers, and state park users. Warden Rick Schoening (far right) stops a boat to check for life vests and fishing licenses. Warden Shane Reno (right) helps a young ice angler get her lure down to the fish.

**"Whether we're answering questions about park c third-graders, the essence of being a warden is bein**

*Dave Hagengruber is FWP's aquatic education specialist in Helena.*



**nping fees or untangling fish hooks for a bunch of able to work with people."** —Shane Reno, Havre Game Warden

FWP offers assistance with game damage to landowners who allow free public hunting. "The hunters really expect us to help landowners who allow public access," says Anderson. "The help we provide farmers and ranchers in winter, spring, and summer pays off in the fall when those landowners then let folks on to hunt."

Wardens sometimes spend years developing relationships with the landowners in their districts. "We try to stay in touch with landowners all year long," Anderson says. "If I'm out checking anglers and pass a ranch, I try to swing by and visit, to check up on their impressions of deer numbers and see how the last hunting season went. Then, when we start hearing from hunters later in the summer and fall, I can steer them toward the right places."

Those strong people skills make many Montana wardens among the best in the West. In July, the Western Association of Fish and Wildlife Agencies singled out Montana's Chad Murphy to receive its top law enforcement award. The association noted, among his other accomplishments, how the Whitehall warden has successfully improved relations between landowners and hunters.

Good people skills are often instinctive, but much of what wardens do requires year-round training. Some training is academic, such as classes teaching DNA and forensic evidence collection, or courses on new arrest and search-and-seizure laws. Other training is physical, such as regular qualification shoots on the firearms range, self-defense, whitewater boating, and even ice rescue. All training is taken with the utmost seriousness. In the game warden business, danger is always close at hand.

"In the fall, many people a warden encounters are armed," says Wendy Kamm, game warden at Fort Benton and also FWP's ice safety and rescue instructor. "We typically work alone in the most remote parts of our districts, where the nearest backup may be hours away. Training is important to win a case in court or to keep every aspect of a case legal. But most importantly, it's so we can keep everyone safe."

## CRAZY DAYS

Though wardens still patrol remote backcountry areas, they increasingly find themselves in crowds as they patrol Montana's rivers and reservoirs. For Rick Schoening, who patrols the Polson district, the arrival of hot weather means crazy days on the water.

"As soon as the air temperature hits 85 degrees, things go nuts on Flathead Lake," says Schoening. "All spring I work checking anglers, and most of them are well prepared, very knowledgeable, and safety conscious. But as soon as it gets hot, the big pleasure boats and jet skis show up, and my job turns into what I can only describe as a lake version of the state highway patrol. I'm running up and down the lake all day, trying to keep people from hurting themselves and each other with their jet skis and boats."

Schoening estimates he checks more than 1,000 boats in a typical year, making sure the crafts contain the required life vests and fire extinguishers and that drivers aren't intoxicated. He is also responsible for patrolling the lake's six state park units, which means sometimes finding himself in the middle of an argument over campsites, or a dispute between intoxicated family members on a camping trip.

"Being a warden on Flathead might sound fun and exciting, but there is no 'Baywatch' aspect to this job," he says. "I believe strongly in what I'm doing out here, but it's not pleasant having to pull over some 45-year-old boater and explain to him how to behave on the water. By the end of

**POACHER PATROL** As the sun sets, Jim DeBoer settles in for a long night in the field. He holds an electronic device that moves the head of a decoy mule deer, set up nearby. Catching poachers is the most well-known job of a warden, but it's by no means the only one.

the summer, I'm just dying to wake up to a good frost telling me the hunting season is right around the corner."

Though game wardens enjoy the fall season as much as anyone, their work usually doesn't take them on backcountry horse rides across sunny, snowcapped mountains. I learn that on a cold and foggy morning in late November when I meet up with Jim DeBoer near Twin Bridges. Though I'm still groggy from leaving home before 5 a.m., DeBoer has been patrolling for spotlighters along the Ruby River bottoms since just after midnight. Soon he will begin contacting hunters and answering phone messages. After lunch, he'll grab a quick nap at home, then head back out in the field to catch the "rush hour" as hunters return from hunting in the hills. With luck, he might make it home in time for a late supper with his wife.

"Don't mind the mess. I haven't had time to clean house for the past few weeks," DeBoer jokes as I slide onto the seat beside him and watch the light creep into the eastern sky. He's referring to the cab of his truck, which often serves as a warden's home and office, especially during the hunting season. It's littered with notebooks, pens, Styrofoam cups, and candy wrappers.

"This time of year, I think I spend more time in this truck than at my house,"

> **"Being a Montana game warden is not just a job; it's a way of life."**
>
> —Jim Kropp, Chief, FWP Enforcement Division

DeBoer says, "and I'll bet during hunting season, my wife answers as many phone calls as some folks in the Helena office."

As FWP's senior game warden, DeBoer is just a few days from the end of working his 35th general elk hunting season. Many people might figure he'd deserve a little time off once the season ends. But as most elk hunters are cleaning their rifles and preparing for Christmas shopping, DeBoer's busy season is still in progress. Mountain lion hunting and late-season hunts will soon be under way, and trapping, snowmobiling, and game damage complaints are sure to occupy his time far into next year. As enforcement chief Kropp says: It's a way of life.

Despite the many rigors of game warden life, it still seems like a dream job to me. And I'm not alone. Each new game warden job opening attracts 40 to 50 applicants. (Successful candidates must have a four-year college degree and graduate from the Montana Law Enforcement Academy. After being hired, they have to complete a field training program.)

DeBoer and I sit overlooking the Jefferson River, watching deer slowly filter out of the bottoms and bed in the grassy benches above. He offers breakfast of beef jerky and coffee, along with some reflections on what it means to him to be a Montana game warden.

"On most days, I think this is the best job in the world," he says. "Sure, sometimes toward the end of the season it gets tough those nights I have to climb out of bed at 2 a.m., but most of the people out here, the folks hunting and fishing, are as nice as it gets. And after all these years, I still have plenty of days when my job feels like an adventure. So how could anyone ask for a better career than that?"

# A different angle on hunting

By Dave Landstrom

Hunters looking to elevate their success rates should try elevating themselves. By that I mean hunting from a tree stand. Though widely used in the East and Midwest, tree stands are relatively uncommon in the West. That's unfortunate, because it's a great way to see and hunt deer and elk, whether with a bow, rifle, or muzzleloader.

From a tree stand you get a clear view of the animal. When stalking on the ground, the brush or topography often obstructs your view. Also, because you often scare animals with your movement, you might only see them on the run.

But when you're up in a tree stand, the deer or elk doesn't know you are there. That means you can be much more selective about the animal you shoot. It also allows you to place your shot more accurately and estimate range better. It's a good idea to measure shooting distances ahead of time by pacing off distances to various landmarks. When I hunt, I "range" several sticks, trees, or rocks before climbing up into my stand.

Another benefit of hunting from above is that wildlife will often come amazingly close. A few years ago, I shot a small bull elk that had stopped just 7 yards from my tree to sniff the fletching of one of my arrows that was stuck firmly into the ground. (It was from a clean miss at a bull that had passed 20 minutes earlier.)

My brother once watched a mountain lion move away from the foot of his tree stand to stalk a group of feeding whitetails. Another time, my buddy Ed sat in his stand until well after dark, not wanting to spook several deer loitering nearby. Once they finally moved away, Ed put his headlamp on and descended the tree. When he reached the bottom step, the light beam fell directly on a crouching mountain lion, about 10 yards away. Ed later realized the cat had been following the deer. He said when he saw the lion, he screamed, which caused the cat to nearly turn itself inside our trying to retreat.

You may also witness some interesting human behavior from your perch. One poor fellow stopped to relieve himself directly beneath my stand during a late-season deer hunt in the Bitterroots. I saved him embarrassment by calling attention to myself before he got too far.

In northern Wisconsin, where I grew up, tree stands take many shapes and forms. Some are little more than a plank wedged into a tree fork. Others are virtual tree "houses," complete with heater, refrigerator, and even a TV for watching the Packers. I have lived in rental homes less well furnished.

I have met a few other hunters in Montana who use tree stands, though some of the stands don't actually involve trees. One hunter perches on the framework of a windmill and waits for thirsty pronghorn to pass within range. Another will sit on an rock outcropping to spy on his favorite elk crossing or moose wallow. And I know of hunters who will erect a tripod stand in the river bottoms of eastern Montana.

You can learn the details of stand hunting from many books, magazines, and websites. Here are a few of the most important things to know:

**Scouting:** Don't expect to carry a tree stand out on opening weekend and place it where game animals will come by. You need to scout your hunting area ahead of time to learn travel and escape routes.

**Tree stand placement:** Place your stand where you think the deer or elk will pass, such as travel routes between feeding and bedding areas. Or put it near known escape routes or hiding areas where you can intercept game moved by other hunters in the area. This tactic works particularly well during opening weekend. Also, a good tree stand location should be where you have several clear shooting lanes.

**Safety:** Always use a safety chest harness while climbing the tree and hunting from a tree stand.

**Warmth:** It's colder hunting from a tree stand than it is hunting by walking around. Dress accordingly.

**Notification:** Let someone know where your stand is and when you expect to be home.

Perhaps the best thing about hunting from a tree stand is the quiet. I know of nothing more peaceful than sitting still in one place for several hours, watching the sky change color, the trees drop their leaves, squirrels and other animals scamper by, and flocks of waterfowl pass overhead. Though it's not all that high above the ground, a tree stand provides hunters with a bird's-eye view of Montana and a perspective on hunting they likely never knew existed.

*Dave Landstrom is an FWP parks specialist in Kalispell.*

K

LIZ LEWIS

# 911

## How to keep your hound out of harm's way this upland hunting season

By Tom Dickson

**Last year my** golden retriever was impaled by a porcupine, bit by a snake, and then sprayed by a skunk. It seemed like every other week I was rushing her off to the vet or dashing to the Internet for advice. During that time, I was forced to learn a lot about those and other ways a hunting dog can endanger its life or become just plain miserable. With upland bird hunting season now under way, it makes sense for all hunters using dogs to know how to prevent, avoid, and tend to potential threats to our canine companions.

### PORCUPINES

My dog took roughly 20 quills in her face, lips, and even inside her mouth. I removed the quills with a needle-nosed pliers. When finished, I gave her a dish of water, which she refused, despite seeming terribly thirsty after the ordeal. Puzzled, I again felt along her face and then in her mouth. There, on the roof, was one tiny quill nub. I carefully extracted it, and she lapped up the water.

My find shouldn't have been surprising. A porcupine is equipped with 15,000 to 30,000 quills, which it erects when threatened. The quills can't be "thrown," so if you or your dog don't get close, you can't be quilled. Rather, the quills are released when touched, penetrating fur and skin. The ends are covered in tiny sharp scales that make the quills difficult to extract.

If it's just a few quills, you can pull them yourself with a hemostat or pliers, says Gerald Buchholz, a veterinarian in Bismarck, North Dakota, who has treated hundreds of hunting dogs. You may have heard you need to cut the quills first to "reduce air pressure," but Buchholz says that's a myth.

A dog stuck with multiple quills—some vets see animals with hundreds—will be in intense pain, so take it to the vet to be sedated before the painful quill removal. If you can get to the vet within a day or two, there is little chance of long-term damage. But if you wait longer, the quills can get infected and will have to be removed surgically.

### SHARP THINGS

Montana uplands are covered in cactus, burrs, barbed wire, and other items that can cut or poke a dog. If your dog is limping, check for cactus spines and burrs, which can be pulled from the pad with fingers, pliers, or tweezers. If the dog continues to limp, soak the foot in warm Epsom salt water and search carefully for tiny spines.

If you often hunt in prickly spots, consider buying or making dog boots. Several are on the market in rubber, Cordura, neoprene, or other tough fabrics. Some hunters make their own with 5-inch sections of bicycle inner tubes. They look goofy but work well. Wrap the foot in self-adhesive sports wrap to prevent chafing, and then duct tape the tubing onto the wrap, leaving an inch extending past the dog's toenails.

If you hunt abandoned farmsteads and other areas littered with barbed wire, old farm implements, and other sharp objects, consider fitting your dog with a chest and tummy protector, available from some hunting supply stores.

### TRAPS AND SNARES

Traps set for coyotes, bobcats, and raccoons sometimes also catch pointers, retrievers, and spaniels. Though trappers usually avoid setting snares and traps in areas used by upland hunters, they have the same legal right to use public lands as hunters do, so beware.

If your dog gets its paw caught in a foothold trap, restrain the dog (a jacket over its head works well) and stand with one foot on each side of the trap to depress the springs. That will open the jaws and release the paw.

If your dog gets caught in a snare, you must act quickly or it could suffocate. Restrain the dog to prevent the loop from tightening further around its neck. Then relax the snare enough so you can enlarge the loop by backing out the cable through the locking device. Another option, but only if you carry lineman's pliers or cable cutters, is to quickly cut the cable off the dog's neck.

Large square conibear traps, designed to snap shut around the neck and quickly suffocate an animal, can be extremely difficult to open, though not impossible. (The complicated procedure requires more space than available here. Those who want to learn how to open a conibear trap should call an FWP office and ask for the "Recreationist's Guide to Releasing Traps and Snares" brochure.)

**PRICKLY PAW** Sand burrs, cactus spines, and other sharp objects can bring a dog up lame. Some hunters use booties to protect their dog's pads from sharp objects.

SPARTASPHOTO.COM

**OUCH! NOW WHAT?** Knowing what to do after your dog has been quilled by a porcupine can make the difference between temporary pain and permanent tissue damage.

Prevent your dog from getting trapped or snared by avoiding areas used by trappers. If you hunt private land, ask the landowner if anyone is trapping, the types of traps being used, and what areas you should avoid. If you hunt public land, look for signs of trappers. Footholds and snares are usually set on game trails running through thick grass or brush or up small side drainages. Conibears are often used in water, but in upland areas they may be set near natural holes or in boxes or buckets containing bait.

## RATTLESNAKES

The good news is that most snakebites in Montana are not fatal to dogs, says Manuel Garcia, a Helena veterinarian. Montana's one poisonous snake, the prairie rattlesnake, is the smallest of the rattlers and usually doesn't inject all of its venom when it bites.

The bad news is that rattlesnake bites often cause severe pain and tissue damage.

Dogs usually take a snakebite in the face, when they lunge at the reptile. Bite severity depends on the snake's size, where the dog was bitten, and the amount of venom injected, says Garcia, who has treated several dozen dogs for snakebite over the years.

There are many types of snakebite kits on the market. Garcia recommends leaving them there. The best tool for a snakebite, he and other vets say, is a car or truck key.

"Drive your dog to the vet as soon as possible," Garcia advises. "We like to see them no later than two hours after the bite."

That doesn't mean you should race back to the vehicle, however. Minimizing movement reduces the spread of venom, so keep your dog calm and walk back at a steady pace. If possible, call your vet's office and let them know you're coming.

Many home snakebite remedies either don't work or worsen conditions, says Garcia. Applying ice to the bite constricts blood vessels and can cause tissue death. Same with applying a tourniquet. And cutting your dog with a razor and trying to suck out the venom only causes additional damage and pain to your pet.

Some vets say you should give your dog Benadryl or other antihistamines. Garcia, however, doesn't recommend it. "Just get the dog to a vet," he advises.

Vomiting, a rapidly swollen face or limb, wobbly walking, limping, and seizures can indicate snakebite.

KEVIN TATE

A few other tips I've learned: Early in the season, when cold-blooded reptiles are more likely to be out in the warm sun, avoid areas known to hold snakes. Or only hunt early in the day before the ground warms up and the snakes become active.

You likely won't see your dog get bitten, so keep an eye out for symptoms. Vomiting, wobbly walking, limping, and seizures can indicate snakebite (as well as other ailments), but the best clue is a rapidly swelling face or limb, which usually occurs within 20 minutes of the bite.

Also, keep in mind that nonpoisonous snakes may bite your dog, though to no ill effect. The one that bit my golden retriever was a big bull snake. This aggressive species hisses and shakes its tail, which in dry grass sounds like a rattle.

My dog was puzzled but unharmed, which is how I left the snake.

## SKUNKS

Contact with a skunk isn't life threatening (unless a rabid skunk bites your dog), but the smell can condemn your companion to the backyard for weeks. After my dog took a direct hit in the muzzle, I went on-line and found this anti-stench recipe, developed by a chemist. It worked incredibly well. When I finished, she still had the faintest whiff of skunk, but it disappeared after an hour or two. The recipe:

**1 fresh quart 3% hydrogen peroxide**
(available in all grocery stores)
**¼ c. baking soda** (like Arm & Hammer)
**1 t. liquid dish soap**

Mix in bucket (it will fizz). Immediately work solution into affected fur. Keep out of eyes, nose, and mouth by using a sponge to dab around the face. Let stand 10 minutes. Rinse thoroughly with warm water. Repeat if necessary. Do not store solution in an airtight container, because it will explode. (Buchholz says this is why the chemist was never able to sell his formula commercially.)

You can also buy anti-stench products, such as Skunk-off, but I can't see how they could work better than this inexpensive home formula.

Other things worth knowing: If your dog has been sprayed, keep it off dog beds, car seats, or other fabric-covered surfaces that will absorb the oily skunk spray. Sometimes you can trim hair that has been sprayed and not have to wash the dog. If the dog is sprayed in the eyes, you may want to see your vet for soothing eye drops.

By the way, save the tomato juice for drinking. It is useless for removing the stink of skunk spray.

## HEAT EXHAUSTION AND DEHYDRATION

In eastern Montana, especially early in the hunting season, dogs can easily overheat. Symptoms include staggering, excessive drooling, and the inability to stand. Cool your dog down as quickly as possible. Douse it in cool water and get it into an air-conditioned vehicle and then into a lake, river, stream, or stock dam.

"But be careful not to plunge an overheated dog into an icy stream or river, which can cause hypothermia," says Buchholz.

To keep your dog from dehydrating, carry plenty of fresh water in the vehicle and into the field. I store a gallon jug in the car and tote a 1-quart water bottle in the back of my hunting vest. Some hunters spray water from bottles into their dog's mouth, but I carry a small plastic or collapsible bowl to reduce water waste.

You'll know your dog needs water when it starts panting nonstop or shows diminished vigor. Ideally, you'll keep provide water regularly so these symptoms don't

*Tom Dickson is editor of* Montana Outdoors.

occur. Find a shady spot where your dog can rest and drink calmly.

### PICKUP BED

"I hold my breath every time I see a dog loose in the back of a pickup," says Buchholz. "We see way too many accidents because of this, and most are severe—multiple fractures and, too often, death."

Some hunrers don't have room in the cab or don't wanr a muddy dog in their vehicle. They should bring a kennel and secure it in the pickup bed. That keeps rheir dog safe and the vehicle interior clean. As for me, I can't imagine driving home after a bird hunt without the sound of my dogs, dirty or nor, snoring in the back seat.

CHUCK AND GALE ROBBINS

LIZ LEWIS

**MONTANA M*A*S*H** Be prepared to perform emergency first aid on your dog when afield. A lightweight fishing forceps works well for pulling cactus spines, burrs, and porcupine quills. Duct tape and sports wrap (above right) combine to make an emergency foot pad protector. Right: Keep your best friend safe and healthy, and you'll have more time to hunt this season and in the future.

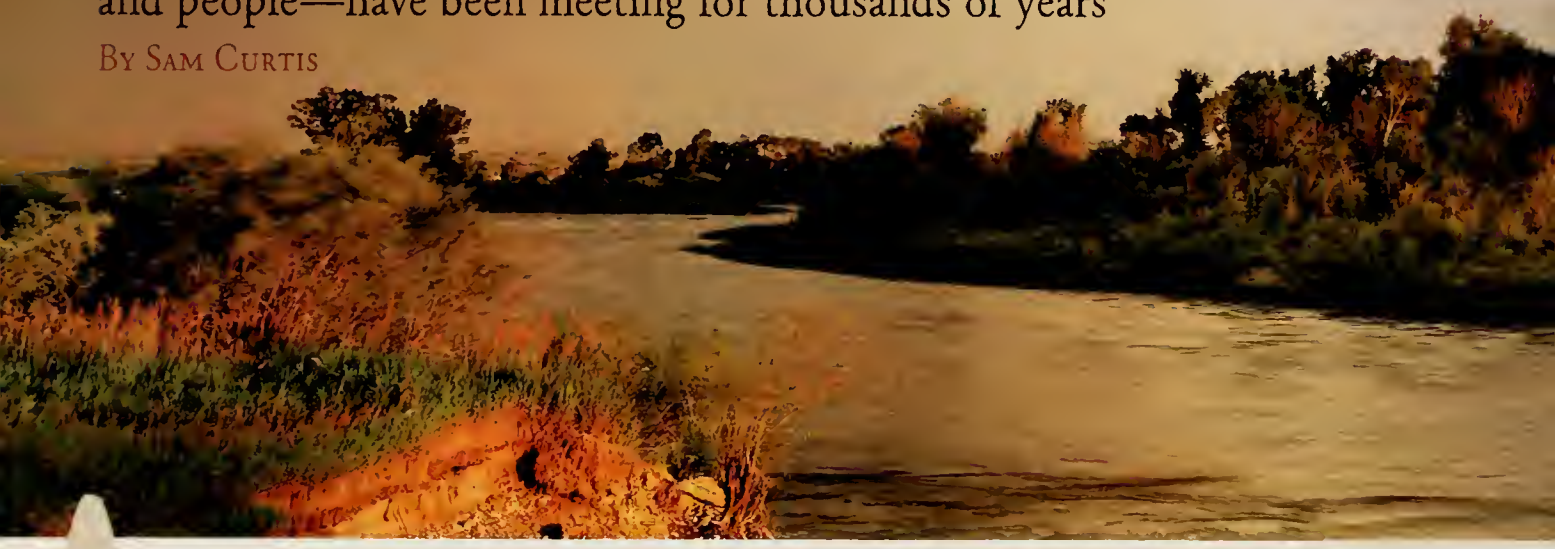
## POOCH PACK

Carry a soft-sided first aid kit in your hunting vest or a fanny pack. It should contain needle-nosed pliers, adhesive tape, small scissors (for trimming burrs from fur or around a gash), antibiotic ophthalmic ointment (without cortisone) to reduce eye redness and irritation, buffered aspirin (though not Tylenol or other acetaminophens) to ease aches, butterfly bandages and sutures (in case your dog gets a big gash), and this article or another guide to field dog safety. In the vehicle, make sure you have the phone number of a local vet or animal hospital, hydrogen peroxide to disinfect wounds, and duct tape.

# Confluence of Cultures

## At Missouri Headwaters State Park, visitors see where rivers—and people—have been meeting for thousands of years

By Sam Curtis



As the wind swirls Julie Kleine's hair across her face, I cinch my parka against a chill that swoops down from the surrounding peaks. It's a chilly autumn day at Missouri Headwaters State Park, located 45 miles west of Bozeman on I-94, and we've taken refuge in the new trail shelter and interpretive display at the park entrance. It's part of a $400,000 improvement in preparation for the Lewis and Clark Bicentennial.

Kleine, an award-winning Montana Fish, Wildlife & Parks (FWP) interpreter, and park manager Ray Heagney are here with two technicians to install a new audio presentation that will enhance visitors' understanding of the site's natural and human history. I've been invited to tag along.

Kleine tells me how the natural resources of this famous crossroads, historically known as the Three Forks, have attracted people for centuries. The cold can't subdue her exuberance for the history of this legendary meeting of three rivers.

"Albert Gallatin never came here, never saw this river," Kleine says with a smile, nodding at the Gallatin, named by Meriwether Lewis and William Clark in 1805 for the treasury secretary. "The Crow referred to it as the Cherry, or Berry River, for all the wild fruit they found along its banks. And the Madison was called the Straight River because, from high ground around the confluence, it appears to flow straight out of the mountains."

### The First Nation

Kleine is in no way disparaging the Corps of Discovery when she talks of these rivers' original names. Rather, she's putting perspective on the human timeline that occupies this terrain, 530 acres of which is maintained as a monumental though primitive park by FWP. People have been using this site, also a National Historic Landmark, for thousands of years. Kleine gestures toward a prehistoric mine in the low foothills on the west side of the Missouri, a river born where three smaller rivers mix and collide. Ancestors of the Bannock, Salish, Shoshone, Crow, and Blackfeet tribes traveled here to dig chert from the mine and chip the hard stone into tools and weapons. Evidence at the mine dates human use back almost 11,000 years.

Edible berries, abundant fish and game, and the thirst-quenching and navigable rivers were also valuable resources that made the Three Forks, which the Salish Indians called the Place of Many Rivers, a popular gathering spot known to Native Americans as far away as the Hidatsa, who lived near today's Bismarck, North Dakota. "Indians

MONTANA FWP

HIGH ON HISTORY Above: State park interpreter Julie Kleine stands on Lewis Rock (now private property) where, in 1805, Captain Lewis looked nervously at the Rocky Mountains. Right: a visitor ponders the tumble once taken by bison at the nearby Madison Buffalo Jump.

BRENT PHELPS

also came to this area because of the Madison Buffalo Jump (also part of the FWP parks system)," says Kleine, pointing to the southeast where, 7 miles away, Indians once ran bison off an abrupt bluff to obtain meat, hides, and bones. "The jump was used for about 4,000 years," she says. "The last people to run buffalo off those cliffs were the Shoshone, in about 1700." It was another 100 years before Lewis and Clark passed through the area.

MONTANA FWP

For all its riches in natural resources, the Missouri headwaters was used by Native Americans only at certain times of the year. And despite the area's importance to Indians, none were present when Captain William Clark arrived at the headwaters on July 25, 1805, two days before Captain Meriwether Lewis. A few days earlier, Lewis had written in his journal: "The Indian woman [Sacagawea] recognizes the country and assures us that this is the river on which her relations live, and that the three forks are at no great distance."

Lewis and Clark were particularly keen on finding Sacagawea's tribe, the Shoshone, who they hoped would provide horses to help them cross the Continental Divide.

"As they go through Montana, the Corps of Discovery sees signs of Indians everywhere," Kleine tells me as we hike along Lewis Rock, a high bluff on private property (where we've received permission to enter) rising above the park's picnic area. Here, Lewis first looked down on the headwaters of the Missouri, the confluence of three rivers he and Clark agreed to name the Gallatin, the Madison (after the secretary of state) and the Jefferson (after the president, who sponsored the expedition). "In eastern Montana, Lewis and Clark see a huge Sun Dance lodge with tepee rings. They see wickiups [domed shelters] all along the riverbanks. They get to the Three Forks and the prairie has been burned, and they see smoke in the distance. They know thousands of people are living here and using the Missouri as their main waterway through this country. But they haven't come in contact with a single person for the whole distance of what is now Montana. So by this time they're getting very anxious. They're saying, 'When are we going to run into somebody? We need to find the Shoshone.'"

Lewis and Clark had good reason to be concerned. The headwaters marked the point beyond which they had no knowledge of the terrain. Hoping to find a water route across the country, they knew only that rivers on the west side of the Continental Divide flowed to the Pacific Ocean. They

LEWIS AND CLARK AT THREE FORKS, E.S. PAXSON, 1912
COURTESY MONTANA HISTORICAL SOCIETY

KEVIN BROOKE

**A GATHERING** In this 1912 rendition, Lewis and Clark stand at the Missouri headwaters with Sacagawea and other members of the expedition. Now a state park, the headwaters has changed little since when the explorers arrived two centuries ago.

thought the Rocky Mountains would be similar to the Appalachian Mountains in the eastern United States. With those mountains in mind, they hoped that perhaps a half-day's portage over the Rockies would put them on a navigable waterway to the Columbia River, which they knew began somewhere on the west side of the Rockies and flowed to the Pacific.

But after looking at the sea of mountains from where Heagney, Kleine, and I now stood, Lewis had grave forebodings of what was to come. With his usual disregard for spelling, he wrote in his journal on July 27, 1805: "We are now several hundred miles within the bosom of this wild and mountainous country…without any information with rispect to the country not knowing how far these mountains continue, or wher to direct our course to pass them to advantage or intersept a navigable branch of the Columbia."

Only a few weeks later, after finding the Shoshone and obtaining horses, the Lewis and Clark Expedition slogged west for 11 miserable days through what Corps of Discovery member Patrick Gass described as "the most terrible mountains I ever beheld." Deep snow, cold temperatures, high peaks, dense forests, and little food stalled the expedition in the Biterroots. The Corps persevered, eventually finding the west-running Clearwater River, but the dream of a Northwest Passage, the much-desired water route to the Pacific, did not survive that grueling mountain crossing.

MATT LONG

BARBARA THOMAS

**SEPARATE CIRCLES** The shape of a pioneer's wagon wheel at the state park is reflected in a traditional Indian headdress. There was little overlap between the two cultures at the Three Forks, however. By the time whites began settling the Missouri headwaters, in the late 1860s, local Indian communities had disappeared, devastated by smallpox.

*Sam Curtis is a freelance writer in Bozeman.*

Perched on Lewis Rock, looking west to the foreboding Rockies, I can now understand something of what Lewis must have felt as he stood here two centuries ago. This site, I realize, has huge historical significance.

Heagney must be reading my thoughts, because he says, "FWP is talking with people at the Holcim cement plant, the present landowner, about ways of getting 25 acres of Lewis Rock included in the park. It would be wonderful for visitors to be able to stand here and read from Lewis's journal and see exactly what he described spread out in front of them."

Heagney has also been working with the National Park Service's Rivers and Trails Preservation Program to figure out a way to put a trail up the side of Lewis Rock or set up a scheduled van ride to take visitors to the top. And he's been meeting with the city of Three Forks and Gallatin County to develop a 5-mile walking trail. Scheduled to be completed by the end of 2004, the trail will connect the park to the city of Three Forks, which runs a museum of local history.

## The Trappers

One legendary episode of that history is Colter's Run. When returning to St. Louis in 1806, Clark again passed through the Missouri headwaters area (Lewis went north to explore the Marias River). Expedition member John Colter, eyeing the abundant beaver at the Three Forks, vowed to return. "The Blackfeet didn't welcome him," Kleine tells me, "but Colter was willing to take that risk." And what a risk.

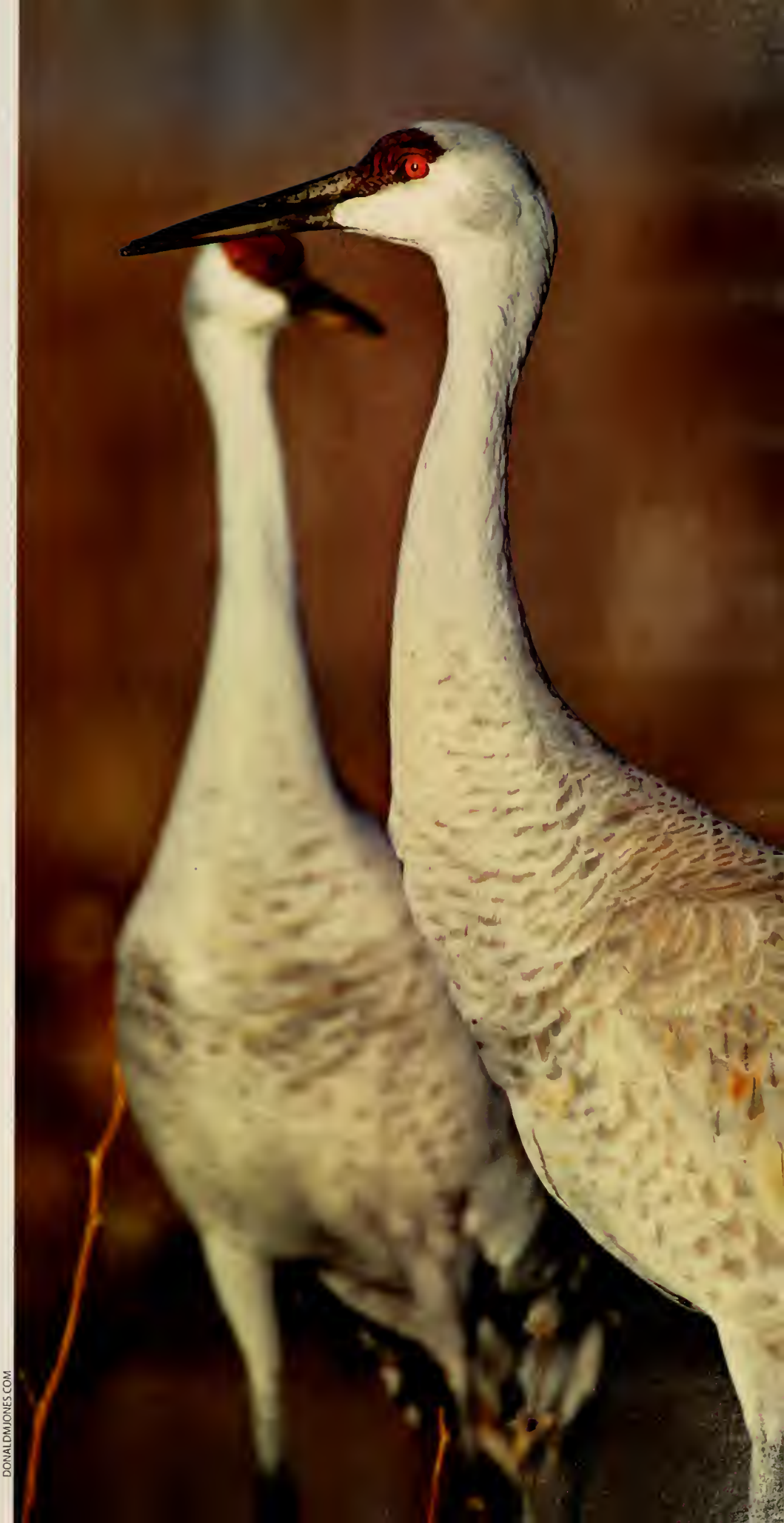
Two years later, in the fall of 1808, Colter returned to the Three Forks with trapper (and former Corps of Discovery member) John Potts with the hope of striking it rich in beaver pelts. Instead, they met up with several hundred Blackfeet, who attacked the pair in retaliation for Colter siding with their traditional Indian enemies in a previous battle. After refusing to come to shore, Potts

was shot. When he returned fire, killing a Blackfeet man, he was killed. The Indians then grabbed Colter, took his weapons, and stripped him naked. After giving the trapper a 200-yard head start, the Indians set off in pursuit. Colter ran for what he thought was his life, and into legend. Seven days and 300 miles later, he arrived, bloodied and exhausted, at a fort on the confluence of the Yellowstone and Bighorn rivers. (The Blackfeet version of the story has it that Colter was allowed to escape, so that the trapper would send a message to other whites wanting to invade Blackfeet territory that they were not welcome.)

By now, you'd think Colter would have had enough of the Three Forks. Yet he returned a few months later to retrieve the traps he'd left behind. And, once again, the Blackfeet forced the trapper to hightail it back to the fort.

Colter tried his luck at the headwaters one last time in the spring of 1810, when he guided a party of trappers to the Three Forks, where they built a log fort out of cottonwoods. After traveling up the Jefferson to trap beaver with some members of the party, Colter returned to find that a band of Gros Ventre Indians had killed five of his fellow trappers near the fort, including George Drouillard, a member of the Lewis and Clark Expedition. Perhaps believing the tragedy was divine retribution for continually tempting fate, Colter reportedly blurted: "If God will only forgive me this time and let me off I will leave the country the day after tomorrow and be damned if I ever come into it again."

Though Colter kept his word, other trappers were lured to the fur-rich headwaters. And they continued to be attacked by Indians defending their territory. Then, in 1837, a smallpox epidemic broke out in the area. When Major Alexander Culbertson came upriver from Fort McKenzie to the Three Forks that year, he discovered a village containing the bodies of several hundred Indians who had died from the disease. By 1840, an estimated 17,000 Plains Indians



**ORIGINAL RESIDENTS** In addition to a rich diversity of human use, the headwaters has long been home to a multitude of wildlife species. Sandhill cranes and other water birds in particular are attracted to the area's lush, wet meadows and braided streams.

DONALDMJONES.COM

had succumbed to smallpox, a deadly disease imported from Europe for which they had no immunity.

## The Settlers

During this same time, the European demand for fur had begun to abate, and with it the influx of trappers. For the next 20 years, there was little activity in the Three Forks area. Then, in the early 1860s, gold was discovered in southwestern Montana. As Kleine, Heagney, and I descend Lewis Rock and begin hiking along the park's Gallatin River Trail, the park interpreter explains that after the discovery, a group of prospectors decided the headwaters would be the perfect place to build a supply town to outfit people headed to the goldfields, 100 miles to the southwest.

"The first Gallatin City was started over there in 1862," Kleine says, pointing across the river, "and then it moved over here two years later to where we're walking. Gallatin City was the first county seat and had the first school in the county. It had a racetrack, a county fair, and a flour mill. But when the railroad was put through 3 miles away in 1883, that was the end of the city. In those days, if you weren't on a rail line, you weren't anywhere."

We walk down the trail to the site of the Gallatin City Hotel, a hand-hewn log building that, to my amazement, is still standing. It was the center of the city's social life, and overnight guests "sometimes complained of not being able to sleep because of the ruckus," reads an interpretive sign at the site.

Later, I walk the park's Pictograph Trail and peer at a human figure drawn in red, by some ancient artist, on the wall of a rock alcove. I hike the Confluence Trail and watch the waters of the Madison and Jefferson coil together, combining two now-famous blue-ribbon trout waters. A bald eagle banks above the cottonwoods, and double-crested cormorants fly past. As I think about the park's diverse layers of importance—as a wildlife haven, Indian cultural crossroads, Lewis and Clark destination, fur trapping mecca, and gold mine supply town—Kleine points out that the limestone rocks around us contain fossilized seashells, a reminder of the area's original history as an ocean floor.

As I offer my thanks and goodbyes, Kleine says, "There are so many different stories. I never get tired of talking about this place."

Adds Heagney, "People who come to Missouri Headwaters State Park can hear those stories from Julie, or they can grab one of our interpretive pamphlets, hike our trails, and make their stay a journey of self discovery. Either way, like Lewis and Clark, you've got to get out of your canoe and take a good look around."

**MORE THAN THE CORPS** Though recognizing the importance of the headwaters to the Lewis and Clark Expedition, the state park wants visitors to know that the site was also important to native people. Indians used the site for thousands of years before the Corps of Discovery arrived.

KEVIN BROOKE

### Primitive Park

So that visitors can get a sense of what conditions here were like hundreds of years ago, Missouri Headwaters does not offer some of the amenities people associate with parks.

**Open:** All year. Camping May 1 to Sept. 30.
**Hours:** Dawn to dusk.
**Location:** 4 miles northeast of Three Forks. Take Highway 205 to Highway 286.
**Amenities:** 20 camping sites, picnic tables, fire rings, vault toilets, drinking water, picnic areas. No hookups, phone, concessions, gas, or firewood, and you must pack out your own trash.
**Boat ramp:** Yes.
**Information:** (406) 994-6934, fwp.state.mt.us.
**Seasonal caretaker and camp host:** Yes.
**Special attractions:** Interpretive displays, historical speakers, wildlife viewing (including 90-plus bird species), hiking, and fishing.

DAVE SHARPE

A Native American elder speaks of the park's rich Indian history.

## Free Summer Programs

Each summer, Missouri Headwaters State Park invites experts to give presentations on local history. The park paid tribute to the area's long history of Indian use in 2003 during a series of guest presentations titled "A Tapestry of Native American Culture in Montana." Prominent American Indians from various tribes presented different perspectives on the importance of the Three Forks to their cultures. This past summer (2004), the speaker series featured various perspectives of the West in the early 1800s.

"When we first started the series a few years ago, we only got a few people each night," says Ray Heagney, park manager. "Now, we may get well over 100 people. Speakers stay after their presentations to talk informally with park visitors by the fire, and we provide free marshmallows for roasting. It makes for a great evening."

GARY LEPPART

# The new cow elk option

For the first time in decades, many hunters will be able to shoot either an antlerless elk or a bull elk with their regular license

**FROM FWP REPORTS**

Montana has drastically changed its elk hunting regulations in some hunting districts, allowing hunters this fall the opportunity to shoot an antlerless elk (cow or calf) with their regular elk hunting license. Previously, hunters needed to apply for an antlerless elk permit if they wanted to bring home a cow elk.

"It's been decades since hunters have had opportunities to shoot cow elk like they'll have this season," says Gary Hammond, management bureau chief of the Montana FWP Wildlife Division. "And ranchers and farmers will get relief in areas of the state where there have been too many elk."

The new regulations, which apply mainly to southwestern Montana, are part of the state's new adaptive harvest management (AHM) strategy for elk. Under AHM, wildlife managers set population objectives for Montana's 44 elk management units. To establish population goals, the managers balance the desires of hunters (who usually want more elk) and landowners (who usually want fewer), while factoring in habitat conditions.

When elk numbers exceed population objectives, as is the case now in some management units, the department will liberalize hunting seasons. When elk numbers drop below objective, FWP will make regulations more restrictive to reduce the cow elk harvest and increase herd size.

"Under AHM, hunters are assured that we won't let elk numbers get too low," says Hammond. "And landowners can be assured that we'll work hard to knock numbers down if they get too high."

Because hunters have been unable to reach them in recent years, elk numbers have grown in parts of southwestern Montana. That increase has hurt some ranchers. Elk sometimes feed on haystacks, cattle pasture, and crops such as corn and alfalfa. And at times the large animals plow through fences, creating costly and time-consuming repairs.

FWP traditionally has worked out elk problems with what Ken Hamlin calls the "surgical strike" approach. "We'd just increase the number of antlerless elk permits in specific places where the herds got too big," says Hamlin, an FWP biologist in Bozeman who coordinated a recent revision of the state's elk management plan.

However, that approach has not worked in many areas over the past several years. A series of mild winters, coupled with the increasing ability of elk to find refuge in areas off-limits to public hunting, has allowed the animals to stay beyond the reach of many hunters. "We've increased the number of antlerless permits and still haven't been able to increase harvest," Hamlin says.

FWP wildlife officials believe that by creating a larger pool of hunters with the option of taking a cow, elk numbers will be reduced, especially in areas where landowners have severe depredation problems.

The new regulation applies primarily in FWP's Region 3 south of I-90 and in Region 2 in five hunting districts in the Bitterroot Range. The regulation allows hunters to shoot either an antlerless or a bull elk (only brow-tined in some districts). Hunters are urged to read the 2004 Montana hunting regulations for details.

Hammond says some hunters fear this year's liberalized regulation could lead to an elk overharvest. Their biggest concern is that an early snowstorm would push elk down from the mountains onto open winter range, where the hunter harvest could quickly exceed the department's objectives.

Hammond explains that FWP will be carefully and regularly monitoring harvest during the season at check stations.

"As soon as we approach a target antlerless harvest for a hunting district or group of hunting districts," he says, "the FWP Commission has authority to close down the antlerless portion of the season on 24-hour notice."

The 2004 elk hunting regulations grew out of FWP's newly revised elk management plan, which, with an environmental assessment, will be out for public comment this fall (view on-line at fwp.state.mt.us). The plan addresses Montana's major elk management issues, such as the setting of population objectives, hunter crowding, public access, hunting opportunities in the Missouri Breaks, depredation, wolves, and regulation complexity. The plan also embraces the adaptive harvest approach to elk management.

"We really think adaptive harvest management is the way to go," says Hammond. "We've already been using it to manage waterfowl and mule deer, and it works. It gives us the flexibility we need while letting hunters and landowners know that we'll do what we say we'll do."

# Will the sun set on Block Management?

Set to expire soon, this popular program will require legislative action to continue helping hunters, landowners, and wildlife managers

**BY TOM DICKSON**

When Clark Ward joined several out-of-state relatives to hunt a Block Management Area (BMA) south of Miles City last fall, the group had "a hunt we'll never forget," says the Philipsburg hunter. Ward shot the "biggest mule deer of my life," he says, while his nephew shot a five-by-five buck that scored 180 Boone and Crockett Club points. "And then one of my nephew's friends shot an eight-by-eight muley that scored 211," says Ward, who manages his father-in-law's ranch a few miles west of Anaconda. "All in all, we had some pretty incredible hunting."

If Montana's Block Management Program were a candidate running for office, it would win in a landslide. Hunters both local and nonresident love it, and landowners across the state give it high marks. In a 2003 survey, 85 percent of hunters said they were satisfied with the hunting opportunities provided by Block Management, and an overwhelming 94 percent of participating landowners said they want to continue enrolling their land in the Block Management Program.

"Those results, which are similar to or even better than what we found in a 1997 survey, tell us this program is on the right track, that it's fulfilling its main goals, and that our work to improve it is paying off," says Alan Charles, who coordinates relations between hunters and landowners for Montana Fish, Wildlife & Parks (FWP).

The Block Management Program, established in 1985, grew out of concerns that public hunting access to private land was diminishing. Landowners were increasingly leasing their land to outfitters or closing their gates to all public hunting. Not only did that create fewer hunting opportunities, but it also increased public hunting pressure on other private farms and ranches.

It also put wildlife managers in a bind. "We manage deer, antelope, and elk mainly with public hunting," says John Ensign, FWP wildlife biologist in Miles City. "If we can't get public hunters onto private land, it's next to impossible for us to fulfill our responsibility of managing wildlife, to keep wildlife populations at levels where they aren't causing depredation problems for farmers and ranchers."

To meet the needs of hunters, landowners, and wildlife managers, Montana created a program in which interested landowners are provided with various benefits for enrolling land. These include compensation (up to $12,000 per year), limited liability protection, and livestock loss reimbursement. FWP also provides hunter management tools such as signs, maps, permission books, and sometimes the assistance of seasonal FWP staff to help manage BMAs.

The payments and other benefits help compensate landowners for impacts of allowing public hunting, such as late-night phone calls, the risk of errant shots, spraying for noxious weeds brought in by hunter vehicles, grading roads rutted from increased truck traffic, and erecting additional fences and gates.

FWP doesn't lease the lands for Block Management but rather contracts with individual landowners to determine how they will manage public hunting on their property. (Incidentally, the program's name refers to its goal of "blocking" together large areas of land under one system of access requirements, management objectives, and hunter-use rules).

"When we made the decision to open the ranch to public hunting," says Butch Gregory, director of the 20,000-acre St. Labre Ranch in Yellowstone County, "we knew we'd need help managing hunters, and we wanted at least some form of compensation for the extra work involved, so signing up with Block Management has

CHUCK AND GALE ROBBINS

**FROM GREEN TO RED?** The bright Block Management Area signs across Montana are a green light to hunters that access to private land is available. That opportunity could wink out, however, in 2006.

worked out well for us."

It has also worked out for Doug Wilson of Ballantine, who hunts the St. Labre BMA with his son and grandson. "We get a lot out of hunting these Block Management Areas," he says. "They are real convenient, and the way the state has it set up, you can head out on the weekend and know you and your family have a place to hunt that day."

Ward, the Philipsburg hunter, is also a Block Management cooperator. "It works for us because the BMA is walk-in only, so we don't have to worry about patrolling the roads," he says. "People get some nice elk here, and we get some compensation from the state, so it's a good deal for everybody."

Not everyone is so enamored. Some hunters complain that the high-quality BMAs are overhunted and that many other BMAs lack game. And some cooperating landowners say they are inundated with hunters or that hunters only want to shoot bucks and thus aren't helping them reduce an overabundance of deer.

Another landowner concern, even among some Block Management supporters, is the amount of compensation. "Our costs go up every year due to inflation," says Gregory. "It would help a lot if Block Management payments could be reviewed every few years to keep pace with those increases."

Despite some criticism, Block Management has received consistently strong support and use in Montana from hunters and ranchers since its inception. During the 2003 hunting season, 1,251 landowners enrolled a total of 8.8 million acres into the program and received payments totaling $3.9 million. Roughly 80,000 hunters spent a total of 400,000 days pursuing game on BMAs.

Those hunters also spent money in local businesses. Many Montana merchants say that by attracting hunters to rural areas, Block Management has been good for their bottom line. "During the fall hunting season, we see customer traffic—resident and nonresident—increase by 25 percent or more," says Dave Smith, co-owner of a Miles City sporting goods store.

Perhaps the program's biggest benefit is that it maintains a traditional connection between hunters and landowners. Gregory says that while growing up in eastern Montana during the 1960s, he never had trouble finding a place to hunt wildlife. "Our family knew several ranchers in the area," he says. "We'd see them in the summer and ask to hunt that fall, and they'd say, 'Sure, go ahead.'"

Though such relationships still exist, they are much less common. These days, says Gregory, "the closest thing to that traditional relationship between hunter and landowner is Block Management."

The program's popularity doesn't necessarily mean it will continue. The legislation granting FWP authority to fund Block Management and other hunting access programs expires in early 2006. Lawmakers must decide in the 2005 session whether or not to keep the program afloat.

Recently, Montana's Private Land/Public Wildlife Council adopted draft recommendations on the Block Management Program. The 15-member governor-appointed council, composed of hunters, landowners, and outfitters, has tentatively recommended that Block Management should be continued and improved.

Opportunities to provide public hunting access on private land may be narrowing. Many Montana landowners say they feel growing pressure to sell out to hunters or outfitters wanting to lease their land.

"We've been approached many times," says Gregory, "and we've been offered some large sums of money. But the ranch manager and I are Montanans, born and raised here, and we believe that keeping the hunting tradition alive and accessible to everyone is what's most important."

*Tom Dickson is editor of* Montana Outdoors.

## Block Management Basics

- To hunt BMAs, you need permission. Depending on the BMA, you can get permission from the landowner, from FWP, or at a sign-in box located at the BMA.
- Many BMAs are walk-in only. Hunters should check with the landowner or FWP for rules on game retrieval, and they should only park in designated areas.
- Be sure you know and understand all rules specific to the BMA where you plan to hunt, such as which game species may be hunted. New booklets showing locations, rules, and contact information for BMAs in each of Montana FWP's seven regions are available from regional FWP offices. On-line information is available at: fwp.state.mt.us/hunting.

## TIMELINE

**Mid-1970s**
Montana wildlife biologists recognize the need to improve public hunting access to private land. FWP establishes walk-in areas, posting signs delineating public and private boundaries, and publishing hunting maps.

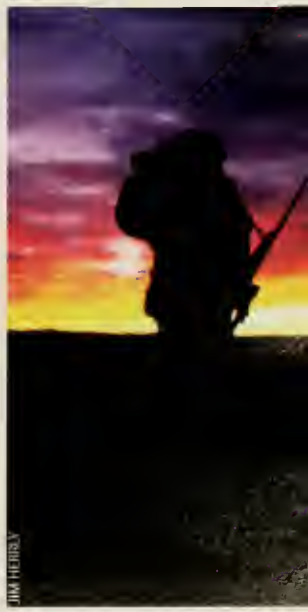
**1985**
Block Management Program established.

**1995**
Montana legislature grants FWP temporary authority to enhance existing hunting access programs and fund them through a new variable-priced outfitter-sponsored nonresident elk and deer license.

**1999**
The temporary authority, called a sunset provision, is extended, but only until 2006.

**2005**
Montana legislature to rule on the Block Management Program's future.

**2006**
The year FWP could lose authority and funding sources for Block Management under current legislation.



# Song of the Land

## Listening to the prairie, while hunting its swiftest inhabitants

By Lori Micken

I'm alone, hunting pronghorn in a place in eastern Montana that I've visited every October for more than 30 years. After months in the mountains, where the world is foreshortened and closed in by tree-filled peaks, I've come to let my eyes stretch. After parking the pickup, I hike up to my favorite vantage point on a sandstone outcrop that runs for half a mile.

These ridges of carved sandstone, backbones of the land, provide protection and footholds for woody plants that cannot survive on the open prairie. This year the junipers are laden with blue and silver berries. In depressions grow scrubby skunkbrush sumac and bloodred roses. Touches of gold and orange in currant bushes are repeated in the lichens that encrust the rocks. Crevices hold mosses, grasses, and other plants.

The glory of prairies is at dawn. The clear, clean air is festooned with smells of pungent sage and juniper, sweet sap oozing from a wounded tree, the dry scent of a place too long without rain, and a faint, dusty odor from ghostly homesteads. I'm caught up in the cycles of life, seasons, and the day, briefly forgetting that hunting is the main reason for being in this wondrous place. Rifle cradled in the crook of my arm, I sit on a rock that was sand when the dinosaurs walked. Here I can see forever across the prairie to a horizon etched by nothing manmade. Far to the west and northwest, the Snowy Mountains appear as blue mounds on the edge of the world. Even farther away, to the southwest, the jagged peaks of the Crazy Mountains reach over the hills like hands of a giant seeking to pull himself into view. Rolling out in all directions from where I sit are hills of tawny yellow, interspersed with blue-green sage. Some gray areas, swept clear of vegetation, reveal how closely rock lies below the soil.

This rock is doomed to slowly erode into soil by vicious swings in temperature, wind, lichens, and other plants. The roots of ponderosa pines split the blocks apart like hydraulic wedges. Beneath the pines, piled upon each other for years, are their cones, old ones gray as the rock, new ones tan and sticky with pitch.

Seven shots break the quiet. One is so far away it sounds like when my ears pop while driving over a mountain pass. There's another shot, then two more. These also are distant, like a stomach growling. Somewhere, hunters are finding pronghorn.

Shouldering my rifle and pack, I move on to revisit each tree along this favorite ridge. The old giants, killed by porcupines, have fallen down into a bed of their own needles from years past. That newly chewed sapling ponderosa may live, even with a primary branch gone, or it may bleed to death before another spring. Tiny, fragile seedlings seek nurture and protection in sheltered spots. They will need a snowy winter to keep from drying like the grasses around them.

The pronghorn, if they do come, will be nearly soundless, even at full run. Their tiny hooves will barely touch the earth as they fly over a hill, the herd flowing down a draw. They might graze within view, always with one sentinel on guard for predators. Or they may materialize miles away on the far hills, too distant to hunt, mere specks of white and tan in my binoculars.

For now, I am content to watch for them while drinking in this stark land—to feel, hear, and smell the vast wonder of the prairie, to be lost in time.

My heart sings with the song of the land. The whistling wind, the *snap, snap, snap* of a

*Lori Micken, a retired high school biology teacher, lives in Livingston.*

CONFLUENCE OF THE YELLOWSTONE AND MISSOURI RIVERS; 1833 WATERCOLOR BY KARL BODMER · HISTORICAL PICTURE ARCHIVE/CORBIS

grasshopper on its last flight, a *cheep* from a vesper sparrow, the shrill *cheee* of a red-tailed hawk, an explosion of wingbeats when a sage grouse erupts from cover—all are but a few notes on a page otherwise empty of sound.

Then the pronghorns appear from nowhere. A group of eight rushes down a nearby sage-covered hill. They pause and mill at a fence before quickly ducking underneath. Before I can find the big leader buck in my scope, they burst away like drag racers. They are too far and too fast for me to chance a shot. I watch them race across and over the amphitheater of hills. So majestic are the pronghorn that the sound of heraldic trumpets would be far more fitting than this quiet.

I lean my rifle on a tree and sit back down on cold, rounded stones. As the iciness seeps through my jeans, my body heat seeps out. Endless years have sculpted the rocks, carving strange indentations and holes like empty eyes and gaping mouths. Here is a small cave, just right for a coyote to curl up in. An eye tooth of stone hangs from another cave's lip. As the sun creeps higher, the temperature quickly grows warm and I shed my hooded sweatshirt. A breeze that barely touches me on the lee of the ridge portends the winds to come later in the day. They will whine and moan in these few rocks and fewer trees and whistle in my ears.

I stand and stretch, then amble back to the deep ruts of road etched across the land. Grasses and sages, cacti, yucca, and broadleafed herbs are scattered across the dry dirt, precisely spaced so each can live. Aster, daisy, gayfeather, hairbell, and gumweed still manage to bloom here in mid-October. Small, late, and few in number, they make dots of violet, white, yellow, purple, blue, and gold on the plain background of parched grasses, gray-green sage, and dull yucca.

Half a mile east, above the ridge's high end, where trees are thick enough to be called woods, a recently built windmill creaks and spins, pulling water from below

**For the time, I am content to watch for them while drinking in this stark land....**

the rocks. I can smell the water before I see it spilling into a trough, then running off over the sandstone and down a gully. When I was young, I thought it silly that horses and cattle were said to lead thirsty cowboys to a river by smell alone. But now I know water does have an odor, even pure, clear water such as this. It tastes good.

There are no pronghorn visible from this new vista, so I return to the lower ridge to glass for my prey, trudging the ruts worn by wagons, model Ts, and pickups.

The pronghorn appear at once, seeming to rise out of the earth. They float up over a hill, first looking like moving fence posts, then changing to sleek animals.

It is impossible to fool them. From the ridge, I head toward a spot nearly a mile off. They watch. As I move, they move. I need binoculars for what they see unaided with their large, brown eyes. As I sneak below a hill, they seem to ignore me and graze. Half a mile later, I creep to a hilltop to spy. They are again a mile away, watching from a different hill. Their frank, open stares appear mildly surprised at my persistence, my invasion of their land.

An hour later, while staring out at the empty prairie, I think back on the two herds of pronghorn. It seems I'd imagined them, like dreams in a vision quest. But they were there, and I watched them run. I have seen the sky and earth for the past million years. It has been a wonderful hunt.

NELSON KLINTER

# Forty Years of Wilderness

When Congress passed the Wilderness Act in 1964, millions of acres "untrammeled by man" were preserved for hunting, fishing, hiking, and wildlife watching

By Becky Lomax

On September 3, 1964, while I sat in my third grade classroom learning cursive writing, President Lyndon Johnson signed the Wilderness Act, thus preserving Montana's Bob Marshall Wilderness until I could see it myself many years later.

This spring, from atop Sun Butte in the "Bob," as it is called by visitors, I stared up a broad, scenic valley at miles of mountains, herds of bighorn sheep, and twisting rivers. It was a place unmarred by human activity, just as Congress and President Johnson had promised four decades before.

For my generation and those after, wilderness came on a platter, a multimillion-acre legacy of protected wild lands across the United States. In Montana, that legacy has preserved places that add greatly to the state's enormous allure. Forty years have passed since the controversial Wilderness Act established the National Wilderness Preservation System, which many people now take for granted. Wilderness designation didn't just happen, however. It required decades of work by a handful of visionaries who fought to bring a wilderness land ethic into the public's consciousness. The story of how the Wilderness Act came about is the story of America's ongoing struggle to see the natural world in a new way.

## Roosevelt, Leopold, and others

Wilderness preservation dates back to the

DAVID R BENNETT

MABLE MANSFIELD, COURTESY THE WILDERNESS SOCIETY

*"To us the enjoyment of solitude, complete independence, and the beauty of undefiled panoramas is absolutely essential to happiness."*

—Bob Marshall

**THE BOB** Bob Marshall the wilderness area (Chinese Wall, far left) is a 1-million acre tract used daily by hikers, campers, anglers, and outfitted hunters (above). Bob Marshall the man (left) was an indefatigable forester based in Missoula who, in the 1920s and '30s, helped set the stage for wilderness protection.

early 1900s, when President Theodore Roosevelt established 150 million acres of new national forests. These weren't preserved as wilderness, but "clearly Teddy Roosevelt got the ball rolling," says Tom Flowers, a Montana Fish, Wildlife & Parks (FWP) game warden in Choteau who works on department wilderness activities. "Setting aside those lands as national forest provided the building blocks for future wilderness designation."

In 1922, a forester with the U.S. Forest Service boldly submitted a radical management proposal for New Mexico's Gila National Forest. Aldo Leopold, a hunter and the founder of modern game management principles, pushed the agency until it temporarily designated the forest two years later as the world's first wilderness area.

With that seminal designation, Leopold's concept of wilderness took root. For the next two decades, he preached wildness as something necessary for the human soul. "Like winds and sunsets, wild things were taken for granted until progress began to do away with them," Leopold wrote in a collection of essays titled *A Sand County Almanac*. "Now we face the question whether a still higher 'standard of living' is worth its cost in things natural, wild, and free." *A Sand County Almanac* advocated his new concept, a "land ethic," which obligated humans to the land and provided the wilderness movement with its stewardship spine.

In 1925, a young forester named Robert Marshall had become a local legend in Montana with his marathon 30-mile mountain treks around the Missoula area. Later, when he entered doctoral studies at Johns Hopkins University, in Baltimore, he penned his thoughts into "The Problem of Wilderness," a treatise defining principles that would shape the movement to preserve America's wildlands. Considered by wilderness advocates to be the movement's Magna Carta, the work identified wilderness as containing two essential traits: no mechanical transport and no permanent human inhabitants.

Gaining a national reputation, Marshall devoted his energy to preserving the nation's last remaining wild places. "Wilderness is melting away," he wrote in *Nature* magazine, "like some last snowbank on some south-facing mountainside during a hot afternoon in June." In a one-man crusade as the Forest Service's Lands Division chief, he placed 5.4 million acres of vulnerable lands under wilderness protection.

To advocate further wildlands preservation, Marshall launched The Wilderness Society in 1935—along with Leopold, Robert Sterling Yard (a National Park Service publicist), and Benton MacKaye (the Massachusetts forester who created the Appalachian Trail). When the independently wealthy Marshall died four years later at the age of 38, his estate provided financially for The Wilderness Society, ensuring it could continue its conservation work.

BEARTOOTH PLATEAU IN THE ABSAROKA BEARTOOTH

Foremost of the society's concerns at the time was preventing dams from being built in the Dinosaur National Monument of Colorado and Utah. Howard Zahniser, executive secretary of The Wilderness Society, saw a solution in a national wilderness law, previously advocated by both Leopold and Marshall. In 1956, he drafted the Wilderness Bill, using the term "untrammeled" to describe wilderness. After 8 years, 66 drafts, and 18 congressional hearings, that word was retained in the final draft of the Wilderness Act. Wilderness, it said, is "an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain."

Wilderness, according to Zahniser, Leopold, and others, was at the heart of a singular American culture, one distinct from Europe, where nature was viewed only as background or raw material, or idealized in pastoral gardens. President Johnson transformed the unique concept into federal law by signing the Wilderness Act and securing 9.1 million acres for permanent protection.

## Montanans and the Scapegoat

"By design, the Wilderness Act is a law for all seasons," says Doug Scott of the Washington, D.C.–based Pew Wilderness Center. "It's not a piece of parchment in a musty archive, but a living tool."

For decades, Montanans have been using that tool to establish wilderness areas in their state. Having formed the first state wilderness organization in 1958, while Zahniser was still drafting the act's language, Montanans were ready to put the new federal legislation to use when it became law in 1964. Under the act, citizens could petition to create new wilderness. Cecil Garland, a hardware store owner from Lincoln, teamed up with the Montana Wilderness Association to rally support for the Scapegoat Wilderness. In 1972, the Scapegoat became the nation's first citizen-initiated wilderness area.

"That was so important, because the local community had ownership in a wilderness area rather than having the feds come in and force it on them," says Flowers, the Montana game warden.

Since then, Congress has added more lands to the nation's wilderness bank, which now totals roughly 5 percent of federal lands. In the 1980s, President Ronald Reagan signed 43 laws designating wilderness areas, more than any other president, and President Bill Clinton followed by dedicating the most wilderness acreage—66 million. To date, 662 wilderness areas have federal protection—ranging from Pelican Island's 5 acres in Florida to Alaska's 9-million acre Wrangell-St. Elias Wilderness.

Wilderness areas are by definition federal lands that retain their primeval character and are managed to preserve their natural conditions. Only temporary nonmechanical human uses such as hiking, hunting, and camping are allowed.

Restrictions against roads, mining, timber harvest, and other development have created opponents of wilderness designation,

*Becky Lomax is a freelance writer in Whitefish.*

*"We must leave [future generations] a glimpse of the world as it was in the beginning, not just after we got through with it."*

—President Lyndon Johnson, upon signing the Wilderness Act in 1964

including many timber, mining, energy, and ranching interests that advocate putting the lands to commercial use. Many lawmakers maintain that western states have enough public land, and some believe that even existing wilderness areas are unnecessary and suppress local economies.

Wilderness advocates counter that revenue from recreational use more than makes up for lost income from logging, mining, and other development.

With the advent of the Wilderness Act, Congress placed administration of wilderness lands under four existing agencies: the Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service, and National Park Service. Many wilderness borders overlap agency boundaries. For instance, the Bob Marshall Complex, which includes the Great Bear and the Scapegoat, is administered as one unit by four national forests.

The federal agencies don't, however, manage the fish and wildlife in wilderness areas. That responsibility falls to state conservation agencies, such as Montana FWP. Because fish and wildlife and their habitats are so intertwined, says Flowers, it's essential that FWP maintain a cooperative working relationship with the federal agencies managing Montana's wilderness areas.

"It makes sense, both from an ecological and administrative standpoint, that the different agencies managing different parts of wilderness have a shared vision," he says. "That's the only way the land can be managed in concert with fish, wildlife, and plant communities."

Wildlife and habitat aren't the only aspects of wilderness that receive agency attention. Over the past several decades, millions of

U.S. FOREST SERVICE

**GREEN INK** When President Johnson signed the Wilderness Act, he made into federal law what hunters, anglers, and other conservationists had been advocating for decades.

hunters, hikers, outfitters, and anglers have enjoyed the nation's wildlands. But that constant use takes its toll. Burgeoning backcountry visits during the 1970s and '80s led to degraded campsites, braided trails, littered landscapes, and trampled vegetation. In the 1990s, the Forest Service teamed up with the National Outdoor Leadership School to develop the Leave No Trace ethic. The concept, which advocates properly disposing

human waste, only using established trails, leaving natural resources alone, and respecting other wilderness users has become the foundation of wilderness education.

"The Leave No Trace ethic has been fantastically successful," says Bill Schneider, a Helena author of several wilderness area hiking guides. "In my 35 years of hiking, I've seen it go from very bad to very good. I don't find many gum wrappers anymore."

Among those making use of wilderness areas in Montana are outfitters such as Karen and Jack Hooker, of Ovando. They and their crew take roughly 100 guests into the Bob Marshall each year, some to hunt elk and deer, others to watch wildlife on horseback. According to Chris Ryan, the Forest Service's regional wilderness program leader in Missoula, outfitters fill an important role in providing access to roadless areas. "Without outfitters, many people would never have the opportunity to experience wilderness," she says. To lessen their damage to wilderness tracts, the Forest

**USER FRIENDLY** Montana's wilderness areas attract thousands of people each year, including backpackers (left) and anglers (below) in the Absaroka-Beartooth. Roughly 3.5 percent of Montana's land is designated as wilderness, preserving habitat for sensitive wildlife species such as grizzly bears (right).

## America's Wilderness Timeline

Over the past century, the uniquely American concept of wilderness has become established in the nation's consciousness.

**1907:** U.S. Forest Service is created.

**1901–09:** President Theodore Roosevelt sets aside 150 million acres of federal land as national forests.

**1924:** At Aldo Leopold's urging, the USFS designates the Gila National Forest as the world's first wilderness.

**1925:** Robert Marshall's mountain treks form the basis for "The Problem of Wilderness," a treatise that shapes the movement to preserve America's wilds.

**1935:** The Wilderness Society is formed to preserve wildlands.

**1939:** The Forest Service adopts its U Regulations, which directs that primitive areas on national forests be reviewed and reclassified as "wilderness," "wild," or "roadless," depending on their size.

**1949:** *A Sand County Almanac* by Aldo Leopold is published posthumously.

**1964:** President Johnson signs the Wilderness Act, instituting the National Wilderness Preservation System.

**1964:** As part of the Wilderness Act, five wilderness areas in Montana are established, comprising 1.5 million square acres: Anaconda-Pintler (158,615 acres), Bob Marshall (1,009,356 acres), Cabinet Mountains (94,272 acres), Gates of the Mountains (28,562 acres), and Selway-Bitterroot (251,443 acres in Montana).

*"We simply need that wild country available to us, even if we never do more than drive to the edge and look in. For it can be a means of reassuring ourselves of our sanity as creatures, a part of the geography of hope."*

—Wallace Stegner, *The Wilderness Letter*

Service limits the number of people and pack animals allowed in outfitted groups.

## The Treasure State's Wilderness

In Montana, the National Wilderness Preservation System has designated 3.4 million acres of roadless landscape. When the Wilderness Act was enacted, Montana already had five primitive, roadless areas meeting criteria for automatic inclusion: the Anaconda-Pintler, Bob Marshall, Cabinet Mountains, Gates of the Mountains, and Selway-Bitterroot. Since then, 10 more areas scattered across the state have been added. At 1 million acres, the Bob Marshall Wilderness is the state's largest; the smallest is the 11,366-acre Medicine Lake Wilderness, near Plentywood.

Wilderness refuges provide easy wildlife viewing, from raptors and pronghorn at UL Bend to trumpeter swans at Red Rock Lakes. Anglers gravitate to the Anaconda-Pintler's famous trout streams and pursue cutthroats, grayling, rainbows, and brookies in the Lee Metcalf Wilderness.

For hunters, wilderness areas are heaven sent. Paraphrasing Leopold, national hunter education guru Jim Posewitz says, "They are places to pursue your buck free from the sounds of truck engines."

Those yearning for big mountain scenery head to the Bob Marshall's Chinese Wall, a 22-mile-long, 1,000-foot-tall cliff, or the state's highest peaks in the Absaroka-Beartooth. Rafters head down the Wild and Scenic Middle Fork of the Flathead River in the Great Bear. Those seeking solitude slip off to the Gates of the Mountains, which attracts the fewest visitors of Montana's wilderness tracts.

Less than 4 percent of Montana's land is designated as wilderness, though the public perception is of a much greater amount.

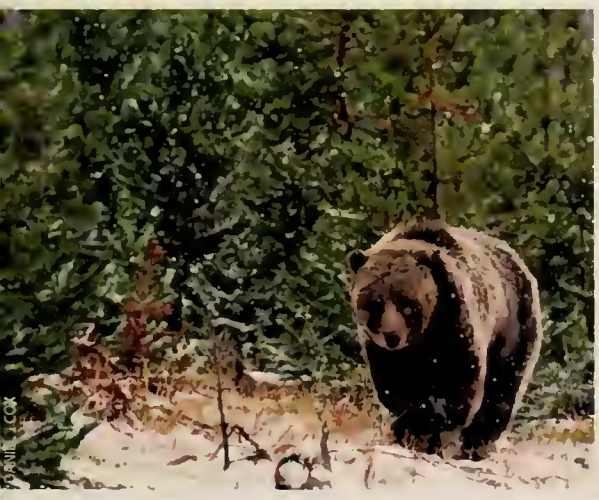
"It's an unfortunate misconception by many people that all public lands are protected wilderness," says Bob Decker, executive director of the Montana Wilderness Association.

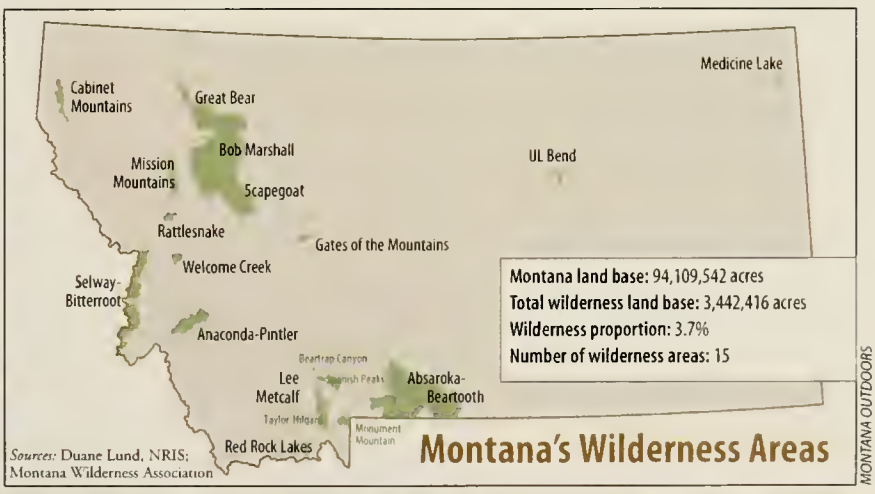
For decades, many of the state's roadless lands have been proposed for wilderness designation, but in fact, says Decker, no new Montana acreage has been added since 1983. In 1988 a popular bill to designate an additional 1.4 million acres failed to become law. Currently, the Northern Rockies Ecosystem Protection Act, designed to add wilderness to Montana and four other states, floats through legislative committees.

The act might have a better chance of becoming law if those in Washington, D.C. could have joined me that day on Sun Butte. There, surrounded by the Wilderness Act's legacy, I could see firsthand the value of protecting roadless lands—the quiet, the solitude, the abundance of wildlife. Understanding the value of wilderness requires little more than visiting one.

"All it takes is to get out in the wilds," says Schneider. "Not flying over in an airplane or thumbing through a coffee-table book, but getting out with a pack and boots. That's when you realize why wilderness is so essential to so many people."

*On September 18, the University of Montana's College of Forestry and Conservation in Missoula is celebrating the Wilderness Act's 40th anniversary with its Wilderness Walk. The walk features family activities such as fly fishing and butterfly identification, as well as an easy stroll. For more information, call (406) 243-5361.*






**1970:** President Richard Nixon signs a bill designating 9 million new acres of wilderness.

**1972:** Congress designates the Scapegoat Wilderness (239,936 acres) after Montanans lobby to have the roadless area protected.

**1975:** Mission Mountains Wilderness (73,877 acres) protects historic American Indian hunting and fishing grounds.

**1976:** Three wilderness areas are added in Montana: Absaroka-Beartooth (920,343 acres), Medicine Lake (11,366 acres), Red Rock Lakes (32,350 acres), and UL Bend (20,819 acres).

**1978:** Great Bear (286,700 acres), Welcome Creek (28,135 acres).

**1980:** Rattlesnake (32,976 acres).

**1976–80:** President Jimmy Carter signs 14 wilderness bills, adding 66 million acres.

**1983:** Lee Metcalf Wilderness (254,288 acres).

**1980s:** President Ronald Reagan signs wilderness protection laws designating a total of 10 million acres.

**1990s:** President Bill Clinton designates more than 66 million acres as protected wilderness areas.

**2004:** 40th anniversary of the Wilderness Act, celebrating 662 federally protected wilderness areas for a combined total of 105,695,176 acres.

1970 | 1980 | 1990 | 2000 | 2010

For more information on Montana's 15 wilderness areas, go to www.wilderness.net or www.wildmontana.org.

# STATE PARKS 2004 EVENTS CALENDAR

## September

**1** Wednesday Lunch Hour Programs, *Giant Springs State Park, 12 p.m.* Great horned owl. (406) 454-5870.

**3** Friday Morning Interpretive Walks, *Giant Springs State Park, 8:30 a.m.* (406) 454-5870.

**3** Interpretive Talk, *Rainbow Falls Upper Overlook, Giant Springs State Park, 1 p.m.* History of the waterfalls. (406) 454-5870.

**3** What's Shaking in Montana? *Lewis and Clark Caverns State Park, 8 p.m.* Historic and recent earthquakes in Montana. (406) 287-3541.

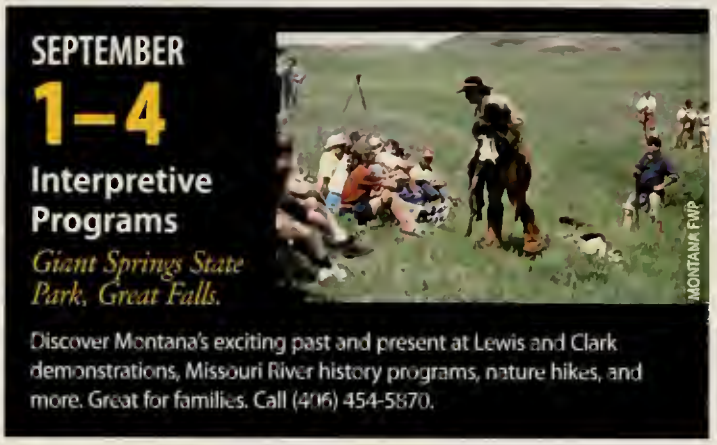
**4** North Shore Interpretive Hikes, *Giant Springs State Park, 9 a.m.* Hike a beautiful 2-mile portion of the Missouri River. (406) 454-5870.

**4** Interpretation at the Great Falls of the Missouri River, *Giant Springs State Park, 1 p.m.* Waterfalls history. (406) 454-5870.

**4** Chief Plenty Coups Day of Honor, *Chief Plenty Coups State Park, 1 p.m.* An annual celebration of Chief Plenty Coups legacy and of the Crow people. Interpretive presentations, Crow singing and dancing, Arrow Creek battle reenactment, free buffalo dinner. (406) 252-1289.

**8, 9, 10, 11** Traditional Trades Week, *Travelers' Rest State Park, all day.* Learn traditional trades of the early 19th century. Daily workshops in quillwork, naturalist journaling, and traditional beading. Saturday, September 11, is a free demonstration day with brain tanning, natural pine glue sticks, Ya-Ya dolls, and early American preservation techniques. (406) 273-4253.

**18, 19** Fourth Annual Atlatl Competition, *Ulm Pishkun State Park, 10 a.m. to 4 p.m.* Learn how to use this 8,000-year-old spear-throwing device. (406) 866-2217.


SEPTEMBER
1–4
Interpretive Programs
Giant Springs State Park, Great Falls.
Discover Montana's exciting past and present at Lewis and Clark demonstrations, Missouri River history programs, nature hikes, and more. Great for families. Call (406) 454-5870.
MONTANA FWP

## December

**18, 19, 27, 28** Candlelight Tours, *Lewis and Clark Caverns State Park. Tours begin at 9:30 a.m.* See the caverns as the early visitors did, and enjoy warm refreshments at the visitor center. (406) 287-3541.

# MONTANA OUTDOORS REPORT (continued)

*Continued from page 5.*

humans, and ways to stop fish contamination.

The Big Springs hatchery stocks still-growing 3- to 4-inch young-of-the-year fingerlings and 8-inch yearling trout and salmon. As the state's largest coldwater hatchery, it produces 1.25 million rainbow trout, 40,000 grayling, and a total of 600,000 cutthroat trout, brown trout, and kokanee salmon. Roughly one-quarter of the hatchery's fish are planted in Canyon Ferry, Holter, and Hauser reservoirs, near Helena. The rest are spread among roughly 100 other lakes and reservoirs across Montana.

Don Skaar, FWP pollution control specialist, says the trace PCB concentrations will likely diminish in hatchery fish as they grow larger. For instance, a stocked 4-inch trout with .10 ppm would probably contain a lower PCB concentration when it grew to a catchable size of 10-plus inches.

FWP is also looking at how PCBs "bioaccumulate" in walleyes, ospreys, pelicans, and other trout-eating animals. The predators have been consuming trout stocked by FWP from the Big Springs hatchery in lakes across the state since the hatchery was built in 1922. In 1994, the department sampled large walleyes in Holter Lake, which is stocked with Lewistown hatchery trout, and found PCB levels below .11 ppm. FWP also tested walleyes in Canyon Ferry in 1997 but found no traces of PCBs. A more recent spot test of rainbow trout stocked last year in Big Casino Reservoir near Lewistown showed traces of PCBs, but in concentrations below reliable detection levels. Also, fish samples gathered from FWP's Bluewater hatchery near Bridger and from the Miles City warmwater hatchery showed no detectable traces of PCBs.

Scientists are currently testing walleyes at Holter and Canyon Ferry and fish at Newlan Reservoir near White Sulphur Springs for PCB content.

Though not natural, PCBs are found throughout the environment, carried by wind from incinerated materials containing the compounds. Skaar says FWP sampling of high mountain lakes has revealed traces of PCBs in the trout there, as well as in Seeley and Whitefish lakes. PCBs are also found in sport fish throughout the United States, including the Atlantic and Pacific oceans.

Skaar adds that FWP is now working with the EPA on a plan to remove PCBs from the Big Springs hatchery. "We're aiming to begin the cleanup this year," he says.

PACIFIC STREAMKEEPERS FEDERATION

FWP continues to test and monitor trout and other fish for PCBs. Trace concentrations of the chemical compounds will likely diminish as the stocked trout grow larger to catchable size.

MONTANA FISH, WILDLIFE & PARKS FOUNDATION

Providing private support for critical Montana Fish, Wildlife & Parks efforts and helping to preserve and enhance Montana's natural, cultural, and recreational resources.
Reach us at: fwp.state.mt.us/foundation, or (406) 444-6759

# Great horned owl

*(Bubo virginianus)*

GARY BEELER

I WALKED INTO the old barn only to take pictures, but the sound of weak mewing drew me further into its gloomy depths. Probably abandoned, two kittens had taken refuge in the wrong place. One, dead and partially eaten, lay on the floor. The other, crying pitifully, cowered nearby. Unable to resist, I stooped to pick up the surviving kitten. As I rose, a light rustling drew my attention to the sagging rafters. Rays of light drifting through holes in the roof glittered on large, amber eyes glaring down at me. I knew I was stealing dinner from the great horned owl that ruled the barn. However, knowing how effectively these large raptors can hunt, I figured it could survive without this one small kitten dinner.

**APPEARANCE** Great horneds are one of the world's biggest owls. Only the great gray and the arctic owls are larger. Standing 20 to 25 inches tall, weighing 3 to 4 pounds, and with a wingspan of 44 inches, this owl presents an intimidating figure perched in a tree. Its round face, large yellow eyes, and ear tufts (the "horns") sitting wide on the head give the owl a catlike appearance. In Montana, the great horned owl is gray to light brown, with dark mottling and dark horizontal banding on the stomach. This owl is sometimes confused with the long-eared owl, which also has ear tufts. But the long-eared is much smaller (13 to 16 inches tall) and has tufts near the middle of its head, over the eyes.

**SONG** Great horned owls make five to eight deep hoots. The second and third hoots often run together, making the song sound like, "You awake? Me tooooo!" The male's hoot is lower pitched than the female's.

**FOOD** As do most owls, the great horned hunts at night, swooping down on mice, squirrels, skunks, rabbits, snakes, insects, and other birds, including the occasional goose or wild turkey. The owl swallows insects and small mammals whole. The indigestible bones, feathers, fur, and teeth are regurgitated about eight hours later in the form of compact, 5-inch-long pellets.

**ADAPTATIONS** Though the large ear tufts have nothing to do with the owl's ears, biologists are unsure what these feathers actually do. The true ears are openings on the side of the head several inches below the tufts. One opening is about an inch higher than the other. This asymmetry allows the owl to audibly pinpoint the location of its prey on both a horizontal and vertical axis. A mouse creeping through grass or even under snow is not safe from the owl's keen hearing.

The great horned owl's eye is almost as large as a human's. In the dark, the pupil can expand to almost the width of the whole eye, allowing it to take in all available light. Most bird species have an eye on each side of their head and see two views at once. An owl's eyes are in front of its face looking straight ahead, like a human's, so it sees just one view. Unlike a human, however, owls can't raise, lower, or rotate their eyes. To look to the side, owls turn their head, rotating it up to 270 degrees.

Owls also have the ability to fly silently. Their flight feathers have soft, loose edges that muffle the sound made by the powerful wings. Many prey animals are killed by owls before they know what hit them.

**REPRODUCTION** Like other owls, the great horned is monogamous, often keeping the same mate for years. The male does not build a nest but leads the female to another bird's abandoned nest or to an old barn. In late winter, the female lays two or three white eggs, which take 30 days to incubate. During incubation, the male takes food to the female. The young stay in the nest 35 to 45 days.

**HABITAT AND MIGRATION** The most widespread of all owls, the great horned lives throughout North America, from the Florida panhandle to northern Alaska. This adaptable, nonmigratory bird tolerates human presence and development, adapting well to environmental change. It is found across Montana, from the timber bottoms of the Milk River to the timberline of the Beaverhead Mountains.

Biologists say the only threats to these owls is indiscriminate shooting (which is illegal), collisions with vehicles, and West Nile Virus (which is a threat to all bird species).

**VIEWING** One of the great wildlife watching experiences of my life came one evening when I saw this massive predator fly silently past. To see a great horned owl for yourself, look for them at dusk, when they become active. Check under tree cavities, old nests, or dead limbs for large owl pellets to find an area these owls frequent. Watch quietly from a short distance.

**BY GARY BEELER**
*Gary Beeler is a writer and photographer living in Boyd.*

## "AN ESSENTIAL POINT"

In the soggy bottomlands where the Gallatin, Madison, and Jefferson rivers meet, the Missouri River is born. Though reaching this confluence was one the Corps of Discovery's major achievements, the explorers were not the first to visit the site. For thousands of years before Lewis and Clark arrived, American Indians had hunted, fished, and traveled through the area, which the Salish called the Place of Many Rivers. Still, Meriwether Lewis's is the first written account of what he described as "an essential point in the geography of this western part of the Continent." Experience this great meeting of waters and cultures by visiting Missouri Headwaters State Park, featured on page 20. Photo by Chuck Haney.

Montana Outdoors September/October 2004
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